Dataset Integrity Check for the Longitudinal Assessment of Bariatric Surgery (LABS) Ancillary Study – Psychosocial Changes Associated with Weight Loss Data Files

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Contents

1 Standard Disclaimer

The intent of this DSIC is to provide confidence that the data distributed by the NIDDK repository is a true copy of the study data. Our intent is not to assess the integrity of the statistical analyses reported by study investigators. As with all statistical analyses of complex datasets, complete replication of a set of statistical results should not be expected in secondary analysis. This occurs for a number of reasons including differences in the handling of missing data, restrictions on cases included in samples for a particular analysis, software coding used to define complex variables, etc. Experience suggests that most discrepancies can ordinarily be resolved by consultation with the study data coordinating center (DCC), however this process is labor-intensive for both DCC and Repository staff. It is thus not our policy to resolve every discrepancy that is observed in an integrity check. Specifically, we do not attempt to resolve minor or inconsequential discrepancies with published results or discrepancies that involve complex analyses, unless NIDDK Repository staff suspect that the observed discrepancy suggests that the dataset may have been corrupted in storage, transmission, or processing by repository staff. We do, however, document in footnotes to the integrity check those instances in which our secondary analyses produced results that were not fully consistent with those reported in the target publication.

2 Study Background

The Longitudinal Assessment of Bariatric Surgery (LABS) was a multi-institutional study conducted as university hospitals throughout the United States. The goals were to compare the morbidity and mortality between primary and revisional bariatric surgery and to identify the clinical predictors of adverse outcomes. The 'Psychosocial Changes Associated with Weight Loss Study' was an ancillary study examining sexual functioning, sex hormones, and relevant psychosocial constructs in individuals with obesity who sought surgical weight loss (and were in enrolled in LABS) compared to a group of individuals with obesity that sought non-surgical weight loss.

3 Archived Datasets

All SAS data files, as provided by the Data Coordinating Center (DCC), are located in the data package. For this replication, variables were taken from the various form datasets. Some variables were also taken from datasets in the LABS-2 data package.

4 Statistical Methods

Analyses were performed to duplicate results for the data published by Sarwer et al. [1] in Surgery for Obesity and Related Diseases in 2013.

To verify the integrity of the SAS datasets, descriptive statistics were computed.

5 Results

For Table 1 in the publication [1], Physical and demographic characteristics stratified by gender, Table A lists the variables that were used in the replication and Table B compares the results calculated from the archived data files to the results published in Table 1. The results of the replication are similar to published results.

For Table 2 in the publication [1], Female Sexual Function Index, Table C lists the variables that were used in the replication and Table D compares the results calculated from the archived data files to the results published in Table 2. The results of the replication are almost an exact match to published results.

For Table 3 in the publication [1], International Index of Erectile Function, Table E lists the variables that were used in the replication and Table F compares the results calculated from the archived data files to the results published in Table 3. The results of the replication are almost an exact match to published results.

For Table 4 in the publication [1], Baseline sex hormone levels for female and male participants, Table G lists the variables that were used in the replication and Table H compares the results calculated from the archived data files to the results published in Table 4. The results of the replication are similar to published results.

For Table 5A in the publication [1], Psychosocial variables for women, Table I lists the variables that were used in the replication and Table J compares the results calculated from the archived data files to the results published in Table 5A. The results of the replication are similar to published results.

For Table 5B in the publication [1], Psychosocial variables for men, Table K lists the variables that were used in the replication and Table L compares the results calculated from the archived data files to the results published in Table 5B. The results of the replication are similar to published results.

6 Conclusion

The NIDDK repository is confident that the LABS Psychosocial Changes Associated with Weight Loss ancillary data files to be distributed are a true copy of the study data.

7 References

[1] Sarwer, D.B., Spitzer, J.C., Wadden, T.A., Rosen, R.C., Mitchell, J.E., Lancaster, K., Courcoulas, A., Gourash, W., Christian, N.J. Sexual functioning and sex hormones in persons with extreme obesity and seeking surgical and nonsurgical weight loss. Surgery for Obesity and Related Diseases. 9 (2013) 997-1007.

Table A: Variables used to replicate Table 1: Physical and demographic characteristics stratified by gender

Characteristic	**dataset.variable**
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id
Age (yr)	pef.age_c
Race	pef.racew, pef.racea, pef.raceb, pef.raceh, pef.racei, pef.raceo
Ethnicity	pef.ethn
Highest education level	comar.sard, dib.educ
Body mass index (kg/m²)	rcab.wgt, po1.wgt, po1.hgtft, po1.hgtin, ppm.wgtkg, ppm.hgtcm
BMI group (kg/m²), n (%)	rcab.wgt, po1.wgt, po1.hgtft, po1.hgtin, ppm.wgtkg, ppm.hgtcm
Waist circumference (cm)	rcab.wcirc1, rcab.wcirc2, rcabe.wcirc3, ppm.wcirc1, ppm.wcirc2, ppm.wcirc3
History of diabetes	calcvar.dm2_p, comar.sardia
History of hypertension	calcvar.htn_p, comar.dhyp

Table B: Comparison of values computed in integrity check to reference article Table 1 values

Females (n=190)

Characteristics	Bariatric surgery Manuscript (n=106)	Bariatric surgery DSIC (n=106)	Diff. (n=0)	Lifestyle modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff. (n=0)
Age (yr)						
Median (Q1, Q3)	40.5 (34.0, 47.8)	40.5 (34.0, 48.0)	0 (0, 0.2)	38.5 (29.0, 47.0)	38.5 (29.0, 47.0)	0 (0, 0)
Range	25.0-60.0	25.0-60.0	0-0	20.0-64.0	20.0-64.0	0-0
Race, n (%)						
Caucasian	102 (96.2)	102 (96.2)	0 (0)	37 (44.0)	37 (44.0)	0 (0)
Black	3 (2.8)	3 (2.8)	0 (0)	42 (50.0)	42 (50.0)	0 (0)
Other	1 (.9)	1 (.9)	0 (0)	5 (6.0)	5 (6.0)	0 (0)
Ethnicity, n (%)						
Hispanic	1 (.9)	1 (.9)	0 (0)	8 (9.5)	8 (9.5)	0 (0)
NonHispanic	105 (99.1)	105 (99.1)	0 (0)	76 (90.5)	76 (90.5)	0 (0)
Highest education level, n (%)						

Characteristics	Bariatric surgery Manuscript (n=106)	Bariatric surgery DSIC (n=106)	Diff. (n=0)	Lifestyle modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff. (n=0)
Some high school	2 (1.9)	2 (1.9)	0 (0)	1 (1.5)	1 (1.5)	0 (0)
High school diploma or GED	22 (21.4)	22 (21.4)	0 (0)	6 (9.0)	6 (9.0)	0 (0)
Some college	22 (21.4)	22 (21.4)	0 (0)	19 (28.4)	19 (28.4)	0 (0)
Other posthigh school education	21 (20.4)	21 (20.4)	0 (0)	2 (3.0)	2 (3.0)	0 (0)
College diploma	21 (20.4)	21 (20.4)	0 (0)	23 (34.3)	23 (34.3)	0 (0)
Graduate or professional degree	15 (14.6)	15 (14.6)	0 (0)	16 (23.9)	16 (23.9)	0 (0)
Body mass index (kg/m²)						
Median (Q1, Q3)	44.5 (41.4, 49.4)	44.5 (41.4, 50.0)	0 (0, 0.6)	39.5 (37.0, 45.0)	39.5 (37.2, 44.9)	0 (0.2, 0.1)
Range	36.4-66.5	36.0-66.5	0.4-0	35.0-60.0	34.6-60.2	0.4-0.2
BMI group (kg/m²), n (%)						
35 to <40	19 (17.9)	16 (15.1)	3 (2.8)	42 (50.0)	44 (52.4)	2 (2.4)
40 to <50	61 (57.5)	63 (59.4)	2 (1.9)	31 (36.9)	28 (33.3)	3 (3.6)
50 to <60	19 (17.9)	20 (18.9)	1 (1.0)	10 (11.9)	9 (10.7)	1 (1.2)
60 to 66.5	7 (6.6)	7 (6.6)	0 (0)	1 (1.2)	1 (1.2)	0 (0)
Waist circumference (cm)						
Median (Q1, Q3)	126.5 (117.0, 134.7)	126.5 (117.1, 134.3)	0 (0.1, 0.4)	112.5 (106.6, 121.0)	112.5 (106.6, 121.0)	0 (0, 0)
Range	102.8-162.2	102.8-162.3	0-0.1	93.0-130.5	93.0-130.5	0-0
History of diabetes, n (%)						
No	88 (83.0)	88 (84.6)	0 (1.6)	59 (89.4)	56 (83.6)	3 (5.8)
Yes	18 (17.0)	16 (15.4)	2 (1.6)	7 (10.6)	11 (16.4)	4 (5.8)
History of hypertension, n (%)						
No	59 (55.7)	56 (52.8)	3 (2.9)	49 (74.2)	47 (70.2)	2 (4.0)
Yes	47 (44.3)	48 (45.3)	1 (1.0)	17 (25.8)	20 (29.9)	3 (4.1)

Males (n=60)

Characteristics	Bariatric surgery Manuscript (n=106)	Bariatric surgery DSIC (n=106)	Diff. (n=0)	Lifestyle modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff. (n=0)
Age (yr)						
Median (Q1, Q3)	49.0 (40.0, 56.0)	49.0 (39.0, 56.0)	0 (1.0, 0)	46.0 (35.8-54.0)	46.0 (35.5, 54.0)	0 (0.3-0)
Range	24.0-64.0	24.0-64.0	0-0	25.0-63.0	25.0-63.0	0-0
Race, n (%)						
Caucasian	35 (100.0)	35 (100.0)	0 (0)	18 (72.0)	18 (72.0)	0 (0)
Black	0 (.0)	0 (.0)	0 (0)	4 (16.0)	4 (16.0)	0 (0)
Other	0 (.0)	0 (.0)	0 (0)	3 (12.0)	3 (12.0)	0 (0)
Ethnicity, n (%)						
Hispanic	1 (2.9)	1 (2.9)	0 (0)	3 (12.0)	3 (12.0)	0 (0)
NonHispanic	34 (97.1)	34 (97.1)	0 (0)	22 (88.0)	22 (88.0)	0 (0)
Highest education level, n (%)						
Some high school	1 (3.0)	1 (3.0)	0 (0)	0 (.0)	0 (.0)	0 (0)
High school diploma or GED	3 (9.1)	3 (9.1)	0 (0)	3 (15.8)	3 (15.8)	0 (0)
Some college	9 (27.3)	9 (27.3)	0 (0)	4 (21.1)	4 (21.1)	0 (0)
Other posthigh school education	11 (33.3)	11 (33.3)	0 (0)	4 (21.1)	4 (21.1)	0 (0)
College diploma	4 (12.1)	4 (12.1)	0 (0)	4 (21.1)	4 (21.1)	0 (0)
Graduate or professional degree	5 (15.2)	5 (15.2)	0 (0)	4 (21.1)	4 (21.1)	0 (0)
Body mass index (kg/m²)						
Median (Q1, Q3)	44.9 (41.8, 51.4)	45.1 (42.1, 51.4)	0.2 (0.3, 0)	41.0 (38.0, 43.0)	40.8 (38.5, 42.6)	0.2 (0.5, 0.4)
Range	37.3-64.6	38.1-64.5	0.8-0.1	35.0-58.0	34.7-57.7	0.3-0.3
BMI group (kg/m²), n (%)						
35 to <40	5 (14.3)	3 (8.6)	2 (5.7)	10 (40.0)	10 (40.0)	0 (0)
40 to <50	20 (57.1)	22 (62.9)	2 (5.8)	14 (56.0)	13 (52.0)	1 (4.0)
50 to <60	6 (17.1)	6 (17.1)	0 (0)	1 (4.0)	1 (4.0)	0 (0)
60 to 66.5	4 (11.4)	4 (11.4)	0 (0)	0 (.0)	0 (.0)	0 (0)
Waist circumference (cm)						
Median (Q1, Q3)	144.0 (135.2, 154.4)	143.0 (135.0, 154.8)	1.0 (0.2, 0.4)	119.2 (118.3, 128.0)	119.2 (118.3, 128.0)	0 (0, 0)

Characteristics	Bariatric surgery Manuscript (n=106)	Bariatric surgery DSIC (n=106)	Diff. (n=0)	Lifestyle modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff. (n=0)
Range	122.3-183.0	122.4-183.0	0.1-0	114.0-132.2	114.0-132.3	0-0.1
History of diabetes, n (%)						
No	24 (68.6)	25 (71.4)	1 (2.8)	13 (65.0)	11 (52.4)	2 (12.6)
Yes	11 (31.4)	10 (28.6)	1 (2.8)	7 (35.0)	10 (47.6)	3 (12.6)
History of hypertension, n (%)						
No	13 (37.1)	8 (22.9)	5 (14.2)	10 (52.6)	10 (47.6)	0 (5.0)
Yes	22 (62.9)	27 (77.1)	5 (14.2)	9 (47.4)	11 (52.4)	2 (5.0)

Table C: Variables used to replicate Table 2: Female Sexual Function Index

Characteristic	**dataset.variable**
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id
Desire score	fsfib.desire, fsfib.rdesire
Arousal score	fsfib.aroused, fsfib.raroused, fsfib.conarous, fsfib.satarous
Lubrication score	fsfib.lubrico, fsfib.lubricd, fsfib.lubricm, fsfib.lubricc
Orgasm score	fsfib.oftorg, fsfib.difforg, fsfib.satorg
Satisfaction score	fsfib.emoclose, fsfib.sexpart, fsfib.oversex
Pain score	fsfib.painvagd, fsfib.painvagf, fsfib.painvago
Total score	fsfib.desire, fsfib.rdesire, fsfib.aroused, fsfib.raroused, fsfib.conarous, fsfib.satarous, fsfib.lubrico, fsfib.lubricd, fsfib.lubricm, fsfib.lubricc, fsfib.oftorg, fsfib.difforg, fsfib.satorg, fsfib.emoclose, fsfib.sexpart, fsfib.oversex, fsfib.painvagd, fsfib.painvagf, fsfib.painvago

Table D: Comparison of values computed in integrity check to reference article Table 2 values

	Total Manuscript (n=163)	Total DSIC (n=163)	Diff. (n=0)	Bariatric Surgery Manuscript (n=87)	Bariatric Surgery DSIC (n=87)	Diff. (n=0)
Total FSFI score (n=136)						
Median (Q1, Q3)	26.8 (23.0, 30.9)	26.7 (23.0, 30.9)	0.1 (0, 0)	26.0 (21.9, 30.0)	26.0 (21.9, 30.0)	0 (0, 0)
Arousal (n = 142)						
Median (Q1, Q3)	4.2 (3.3, 5.4)	4.2 (3.3, 5.4)	0 (0, 0)	4.2 (3.0, 5.1)	4.2 (3.0, 5.1)	0 (0, 0)
Lubrication (n = 141)						
Median (Q1, Q3)	5.4 (4.2, 6.0)	5.4 (4.2, 6.0)	0 (0, 0)	5.1 (4.2, 6.0)	4.8 (3.9, 6.0)	0.3 (0.3, 0)
Desire (n = 143)						
Median (Q1, Q3)	3.0 (2.4, 4.2)	3.0 (2.4, 4.2)	0 (0, 0)	2.4 (2.4, 3.6)	2.4 (2.4, 3.6)	0 (0, 0)
Orgasm (n = 140)						
Median (Q1, Q3)	4.8 (3.6, 5.6)	4.8 (3.6, 5.6)	0 (0, 0)	4.4 (3.6, 5.8)	4.4 (3.6, 6.0)	0 (0, 0.2)
Satisfaction (n = 140)						
Median (Q1, Q3)	4.8 (3.1, 5.6)	4.8 (3.0, 5.6)	0 (0.1, 0)	4.4 (2.8, 5.2)	4.4 (2.8, 5.2)	0 (0, 0)
Pain (n = 139)						
Median (Q1, Q3)	6.0 (4.8, 6.0)	6.0 (4.8, 6.0)	0 (0, 0)	6.0 (4.8, 6.0)	6.0 (4.8, 6.0)	0 (0, 0)

	Lifestyle Modification Manuscript (n=76)	Lifestyle Modification DSIC (n=76)	Diff. (n=0)
Total FSFI score (n=136)			
Median (Q1, Q3)	28.1 (23.9, 31.6)	28.1 (23.9, 31.5)	0 (0, 0.1)
Arousal (n = 142)			
Median (Q1, Q3)	4.8 (3.6, 5.7)	4.8 (3.6, 5.7)	0 (0, 0)
Lubrication (n = 141)			
Median (Q1, Q3)	5.6 (4.8, 6.0)	5.6 (4.8, 6.0)	0 (0, 0)
Desire (n = 143)			
Median (Q1, Q3)	3.6 (2.4, 4.8)	3.6 (2.4, 4.8)	0 (0, 0)
Orgasm (n = 140)			
Median (Q1, Q3)	5.2 (3.6, 5.6)	5.2 (3.6, 5.6)	0 (0, 0)
Satisfaction (n = 140)			
Median (Q1, Q3)	4.8 (3.2, 5.7)	4.8 (3.2, 5.8)	0 (0, 0.1)
Pain (n = 139)			
Median (Q1, Q3)	6.0 (4.8, 6.0)	6.0 (4.8, 6.0)	0 (0, 0)

Table E: Variables used to replicate Table 3: International Index of Erectile Function

Characteristic	**dataset.variable**
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id
Erectile function score	efqb.conerec, efqb.erecact, efqb.sexstim, efqb.attsex, efqb.erecpen, efqb.ereccom
Orgasmic function score	efqb.oftejac, efqb.stimorg
Intercourse satisfaction score	efqb.sexdes, efqb.levsex
Overall satisfaction score	efqb.sexlife1, efqb.sexrel

Table F: Comparison of values computed in integrity check to reference article Table 3 values

	Total Manuscript (n=47)	Total DSIC (n=47)	Diff. (n=0)	Bariatric Surgery Manuscript (n=27)	Bariatric Surgery DSIC (n=27)	Diff. (n=0)
Erectile Function (n=42)						
Median (Q1, Q3)	28.0 (25.0, 30.0)	28.0 (25.0, 30.0)	0 (0, 0)	29.0 (25.0, 30.0)	29.0 (25.0, 30.0)	0 (0, 0)
Orgasmic Function (n=42)						
Median (Q1, Q3)	10.0 (8.0, 10.0)	10.0 (8.0, 10.0)	0 (0, 0)	10.0 (8.0, 10.0)	10.0 (8.0, 10.0)	0 (0, 0)
Sexual Desire (n=42)						
Median (Q1, Q3)	8.0 (7.0, 9.0)	8.0 (7.0, 9.0)	0 (0, 0)	7.0 (6.2, 8.0)	7.0 (6.0, 8.0)	0 (0.2, 0)
Intercourse Satisfaction (n=41)						
Median (Q1, Q3)	10.0 (9.0, 12.0)	10.0 (9.0, 12.0)	0 (0, 0)	10.0 (8.2, 12.0)	10.0 (8.0, 12.0)	0 (0.2, 0)
Overall Satisfaction (n=42)						
Median (Q1, Q3)	8.0 (5.2, 8.8)	8.0 (5.0, 9.0)	0 (0.2, 0.2)	8.0 (5.2, 8.8)	8.0 (5.0, 9.0)	0 (0.2, 0.2)

	Lifestyle Modification Manuscript (n=20)	Lifestyle Modification DSIC (n=20)	Diff. (n=0)
Erectile Function (n=42)			
Median (Q1, Q3)	27.5 (26.0, 30.0)	27.5 (26.0, 30.0)	0 (0, 0)
Orgasmic Function (n=42)			
Median (Q1, Q3)	10.0 (8.0, 10.0)	10.0 (8.0, 10.0)	0 (0, 0)
Sexual Desire (n=42)			
Median (Q1, Q3)	8.0 (7.0, 10.0)	8.0 (7.0, 10.0)	0 (0, 0)
Intercourse Satisfaction (n=41)			
Median (Q1, Q3)	11.0 (9.5, 12.0)	11.0 (9.0, 12.0)	0 (0.5, 0)
Overall Satisfaction (n=42)			
Median (Q1, Q3)	7.5 (5.8, 8.2)	7.5 (5.5, 8.5)	0 (0.3, 0.3)

Table G: Variables used to replicate Table 4: Baseline sex hormone levels for female and male participants

Characteristic	**dataset.variable**
Estradiol (pg/mL)	lab_results.e2
Total Test. (ng/dL)	lab_results.tottest
Free Test. (pg/mL)	lab_results.freetest
FSH (miu/mL)	lab_results.fsh
LH (miu/mL)	lab_results.lh
SHBG (nmol/L)	lab_results.shbg
DHEA-S (ug/dL)	lab_results.dheas
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id

Table H: Comparison of values computed in integrity check to reference article Table 4 values

Baseline sex hormone levels for female participants

	Total Manuscript	Total DSIC	Diff.
Estradiol (pg/mL) (n=179)			
Median (Q1, Q3)	51.5 (33.0, 89.7)	51.5 (33.0, 89.9)	0 (0, 0.2)
Total Test. (ng/dL) (n=179)			
Median (Q1, Q3)	38.3 (25.1, 58.0)	38.3 (24.7, 58.1)	0 (0.4, 0.1)
FSH (miu/mL) (n=178)			
Median (Q1, Q3)	6.0 (4.2, 14.4)	6.0 (4.2, 14.4)	0 (0, 0)
LH (miu/mL) (n=177)			
Median (Q1, Q3)	5.8 (3.2, 14.6)	5.8 (3.2, 14.6)	0 (0, 0)
SHBG (nmol/L) (n=179)			
Median (Q1, Q3)	38.8 (25.2, 61.5)	38.8 (25.2, 61.7)	0 (0, 0.2)
DHEA-S (ug/dL) (n=179)			
Median (Q1, Q3)	101.0 (64.5, 156.7)	101.0 (64.0, 157.0)	0 (0.5, 0.3)

	Bariatric Surgery Manuscript	Bariatric Surgery DSIC	Diff.
Estradiol (pg/mL) (n=179)			
Median (Q1, Q3)	57.0 (37.8, 99.3)	57.0 (37.8, 99.5)	0 (0, 0.2)
Total Test. (ng/dL) (n=179)			
Median (Q1, Q3)	41.1 (26.4, 59.6)	41.1 (26.1, 59.8)	0 (0.3, 0.2)
FSH (miu/mL) (n=178)			
Median (Q1, Q3)	5.6 (3.8, 14.1)	5.6 (3.7, 14.4)	0 (0.1, 0.3)
LH (miu/mL) (n=177)			
Median (Q1, Q3)	6.0 (3.2, 11.7)	6.0 (3.2, 11.8)	0 (0, 0.1)
SHBG (nmol/L) (n=179)			
Median (Q1, Q3)	31.1 (22.6, 43.5)	31.1 (22.1, 44.5)	0 (0.5, 1.0)
DHEA-S (ug/dL) (n=179)			
Median (Q1, Q3)	98.3 (69.8, 154.5)	98.3 (68.6, 157.0)	0 (1.2, 2.5)

	Lifestyle Modification Manuscript	Lifestyle Modification DSIC	Diff.
Estradiol (pg/mL) (n=179)			
Median (Q1, Q3)	49.3 (28.1, 75.6)	49.3 (27.8, 76.8)	0 (0.3, 1.2)
Total Test. (ng/dL) (n=179)			
Median (Q1, Q3)	37.4 (24.5, 55.4)	37.4 (24.4, 56.1)	0 (0.1, 0.7)
FSH (miu/mL) (n=178)			
Median (Q1, Q3)	6.8 (4.5, 14.5)	6.8 (4.5, 14.7)	0 (0, 0.2)
LH (miu/mL) (n=177)			
Median (Q1, Q3)	5.7 (3.0, 16.0)	5.7 (3.0, 16.2)	0 (0, 0.2)
SHBG (nmol/L) (n=179)			
Median (Q1, Q3)	52.3 (29.3, 77.1)	52.3 (29.2, 78.2)	0 (0.1, 1.1)
DHEA-S (ug/dL) (n=179)			
Median (Q1, Q3)	103.7 (62.8, 156.6)	103.7 (61.9, 156.9)	0 (0.9, 0.3)

Baseline sex hormone levels for male participants

	Total Manuscript	Total DSIC	Diff.
Total Test. (ng/dL) (n=55)			
Median (Q1, Q3)	347 (265.0, 423.4)	347 (263.0, 430.0)	0 (2.0, 6.6)
Free Test. (pg/mL) (n=55)			
Median (Q1, Q3)	8.2 (6.4, 9.9)	8.2 (6.3, 10.0)	0 (0.1, 0.1)
LH (miu/mL) (n=55)			
Median (Q1, Q3)	3.4 (2.3, 4.9)	3.4 (2.2, 4.9)	0 (0.1, 0)
SHBG (nmol/L) (n=55)			
Median (Q1, Q3)	25.0 (18.2, 31.1)	25.0 (17.8, 31.1)	0 (0.4, 0)

	Bariatric Surgery Manuscript	Bariatric Surgery DSIC	Diff.
Total Test. (ng/dL) (n=55)			
Median (Q1, Q3)	296.0 (264.0, 404.0)	296.0 (263.0, 405.0)	0 (1.0, 1.0)
Free Test. (pg/mL) (n=55)			
Median (Q1, Q3)	7.8 (6.2, 9.2)	7.8 (6.2, 9.3)	0 (0, 0.1)
LH (miu/mL) (n=55)			
Median (Q1, Q3)	3.0 (1.7, 4.7)	3.0 (1.6, 4.7)	0 (0.1, 0)
SHBG (nmol/L) (n=55)			
Median (Q1, Q3)	20.5 (17.2, 27.5)	20.6 (16.8, 27.6)	0.1 (0.4, 0.1)

	Lifestyle Modification Manuscript	Lifestyle Modification DSIC	Diff.
Total Test. (ng/dL) (n=55)			
Median (Q1, Q3)	382.0 (311.0, 436.8)	382.0 (311.0, 436.8)	0 (0, 0)
Free Test. (pg/mL) (n=55)			
Median (Q1, Q3)	8.7 (7.0, 10.3)	8.7 (7.0, 10.3)	0 (0, 0)
LH (miu/mL) (n=55)			
Median (Q1, Q3)	4.2 (2.5, 4.9)	4.2 (2.5, 4.9)	0 (0, 0)
SHBG (nmol/L) (n=55)			
Median (Q1, Q3)	26.5 (22.0, 38.2)	26.5 (22.0, 38.2)	0 (0, 0)

Table I: Variables used to replicate Table 5A: Psychosocial variables for women

Characteristic	**dataset.variable**
BIQLI	biqol.bipera, biqol.bifmf, biqol.biownsex, biqol.biothsex, biqol.binewp, biqol.biwork, biqol.bifriend, biqol.bifam, biqol.biemot, biqol.bilife, biqol.bisexpar, biqol.bislife, biqol.bieat, biqol.biwgt, biqol.biexer, biqol.biapper, biqol.bigroom, biqol.biconf, biqol.bihappy
BSQ	bsq.bsqshape, bsq.bsqdiet, bsq.bsqlarge, bsq.bsqfat, bsq.bsqfirm, bsq.bsqfull, bsq.bsqcried, bsq.bsqwobb, bsq.bsqwgt, bsq.bsqthigh, bsq.bsqfood, bsq.bsqunfav, bsq.bsqconc, bsq.bsqbath, bsq.bsqbody, bsq.bsqcut, bsq.bsqsweet, bsq.bsqout, bsq.bsqround, bsq.bsqash, bsq.bsqworry, bsq.bsqstom, bsq.bsqlack, bsq.bsqrolls, bsq.bsqthin, bsq.bsqvomit, bsq.bsqroom, bsq.bsqdimp, bsq.bsqref, bsq.bsqpinch, bsq.bsqavoid, bsq.bsqlax, bsq.bsqself, bsq.bsqexer
DAS	
Total	das.dasfin, das.dasrec, das.dasrel, das.dasfrien, das.dascon, das.dasphil, das.dasinlaw, das.dasaim, das.dastime, das.dasmaj, das.dastask, das.dasact, das.dascar, das.dasdiv, das.dasfight, das.daswell, das.dasconf, das.dasmarr, das.dasquarr, das.dasnerve, das.daskiss, das.dasdegre, das.futrel, das.dasout, das.dasstim, das.daslaugh, das.dascalm, das.daswork, das.dastired, das.daslove, das.dasaffec, das.dassex
Consensus	das.dasfin, das.dasrec, das.dasrel, das.dasfrien, das.dascon, das.dasphil, das.dasinlaw, das.dasaim, das.dastime, das.dasmaj, das.dastask, das.dasact, das.dascar
Satisfaction	das.dasdiv, das.dasfight, das.daswell, das.dasconf, das.dasmarr, das.dasquarr, das.dasnerve, das.daskiss, das.dasdegre, das.futrel
Cohesion	das.dasout, das.dasstim, das.daslaugh, das.dascalm, das.daswork
Affection expression	das.dastired, das.daslove, das.dasaffec, das.dassex
BDI	bdi.sadness, bdi.pessimsm, bdi.failure, bdi.dissatif, bdi.guilt, bdi.punish, bdi.disapp, bdi.blame, bdi.suicide, bdi.crying, bdi.irritate, bdi.lossint, bdi.decision, bdi.appear, bdi.work, bdi.chsleep, bdi.tired, bdi.chapp, bdi.wtloss, bdi.hlth, bdi.losssex
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id

Table J: Comparison of values computed in integrity check to reference article Table 5A values

Variable	Total Manuscript (n=190)	Total DSIC (n=190)	Diff. (n=0)
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	40.3 (33.7, 46.0)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	50.0 (39.8, 55.3)	--	--
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	50.0 (37.9, 66.9)	--	--
Work (n=168)*			
Median (Q1, Q3)*	71.9 (50.0, 81.2)	--	--
Physical function (n=177)*			
Median (Q1, Q3)*	47.7 (31.8, 63.6)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	65.0 (45.0, 85.0)	--	--
Sex life (n=176)*			
Median (Q1, Q3)*	56.2 (31.2, 75.0)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	39.3 (21.4, 64.3)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.6 (-1.3, .6)	-.6 (-1.3, .6)	0 (0, 0)
BSQ (n=170)			
Median (Q1, Q3)	116.0 (94.0, 135.8)	116.0 (94.0, 135.0)	0 (0, 0.8)
DAS			
Total (n=169)			
Median (Q1, Q3)	111.0 (96.0, 123.0)	110.0 (95.0, 120.0)	1.0 (1.0, 3.0)
Consensus (n=169)			
Median (Q1, Q3)	46.0 (41.2, 50.0)	47.0 (42.0, 53.0)	1.0 (0.8, 3.0)
Satisfaction (n=169)			
Median (Q1, Q3)	39.0 (33.0, 43.0)	38.0 (31.0, 43.0)	1.0 (2.0, 0)
Cohesion (n=169)			
Median (Q1, Q3)	16.0 (13.0, 18.0)	16.0 (13.0, 18.0)	0 (0, 0)
Affection expression (n=165)			
Median (Q1, Q3)	8.0 (6.0, 10.0)	8.0 (6.0, 10.0)	0 (0, 0)

Variable	Total Manuscript (n=190)	Total DSIC (n=190)	Diff. (n=0)
BDI (n=166)			
Median (Q1, Q3)	9.0 (4.0, 13.0)	9.0 (4.0, 13.0)	0 (0, 0)

Variable	Bariatric Surgery Manuscript (n=106)	Bariatric Surgery DSIC (n=106)	Diff. (n=0)
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	37.7 (30.6, 43.5)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	50.7 (40.0, 55.8)	--	--
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	46.8 (34.7, 56.5)	--	--
Work (n=168)*			
Median (Q1, Q3)*	68.8 (43.8, 81.2)	--	--
Physical function (n=177)*			
Median (Q1, Q3)*	40.9 (22.7, 54.5)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	55.0 (40.0, 75.0)	--	--
Sex life (n=176)*			
Median (Q1, Q3)*	50.0 (25.0, 68.8)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	32.1 (17.9, 57.1)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.8 (-1.5, .3)	-.8 (-1.5, .3)	0 (0, 0)
BSQ (n=170)			
Median (Q1, Q3)	120.0 (94.0, 138.0)	120.0 (94.0, 138.0)	0 (0, 0)
DAS			
Total (n=169)			
Median (Q1, Q3)	112.0 (100.0, 120.2)	111.0 (99.0, 120.5)	1.0 (1.0, 0.3)
Consensus (n=169)			
Median (Q1, Q3)	46.0 (42.0, 50.0)	48.0 (43.5, 52.5)	2.0 (1.5, 2.5)
Satisfaction (n=169)			

Variable	Bariatric Surgery Manuscript (n=106)	Bariatric Surgery DSIC (n=106)	Diff. (n=0)
Median (Q1, Q3)	39.0 (34.0, 43.0)	39.0 (34.0, 43.0)	0 (0, 0)
Cohesion (n=169)			
Median (Q1, Q3)	16.0 (13.0, 18.0)	16.0 (13.0, 18.0)	0 (0, 0)
Affection expression (n=165)			
Median (Q1, Q3)	8.0 (6.0, 10.0)	8.0 (6.0, 10.0)	0 (0, 0)
BDI (n=166)			
Median (Q1, Q3)	8.0 (4.0, 12.0)	8.0 (4.0, 12.0)	0 (0, 0)

Variable	Lifestyle Modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff.
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	43.6 (36.8, 51.2)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	47.7 (39.2, 55.1)	--	--
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	62.9 (46.0, 77.6)	--	--
Work (n=168)*			
Median (Q1, Q3)*	75.0 (56.2, 100.0)	--	--
Physical function (n=177)*			
Median (Q1, Q3)*	58.0 (43.2, 73.3)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	75.0 (55.0, 87.5)	--	--
Sex life (n=176)*			
Median (Q1, Q3)*	63.5 (50.0, 87.5)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	50.0 (27.7, 67.9)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.5 (-1.2, .8)	-.5 (-1.2, .8)	0 (0, 0)
BSQ (n=170)			
Median (Q1, Q3)	110.0 (94.0, 133.0)	110.0 (90.0, 133.0)	0 (4.0, 0)
DAS			

Variable	Lifestyle Modification Manuscript (n=84)	Lifestyle Modification DSIC (n=84)	Diff.
Total (n=169)			
Median (Q1, Q3)	110.0 (91.0, 124.0)	109.0 (90.0, 118.0)	1.0 (1.0, 6.0)
Consensus (n=169)			
Median (Q1, Q3)	46.0 (40.0, 50.8)	47.0 (40.0, 53.0)	1.0 (0, 2.2)
Satisfaction (n=169)			
Median (Q1, Q3)	37.8 (32.0, 42.0)	37.0 (30.0, 42.0)	0.8 (2.0, 0)
Cohesion (n=169)			
Median (Q1, Q3)	16.0 (13.0, 19.0)	16.0 (13.0, 19.0)	0 (0, 0)
Affection expression (n=165)			
Median (Q1, Q3)	8.0 (6.0, 10.0)	8.0 (6.0, 11.0)	0 (0, 1.0)
BDI (n=166)			
Median (Q1, Q3)	9.5 (4.0, 15.0)	10.0 (4.0, 15.0)	0.5 (0, 0)

Table K: Variables used to replicate Table 5B: Psychosocial variables for men

Characteristic	**dataset.variable**
BIQLI	biqol.bipera, biqol.bifmf, biqol.biownsex, biqol.biothsex, biqol.binewp, biqol.biwork, biqol.bifriend, biqol.bifam, biqol.biemot, biqol.bilife, biqol.bisexpar, biqol.bislife, biqol.bieat, biqol.biwgt, biqol.biexer, biqol.biapper, biqol.bigroom, biqol.biconf, biqol.bihappy
BSQ	bsq.bsqshape, bsq.bsqdiet, bsq.bsqlarge, bsq.bsqfat, bsq.bsqfirm, bsq.bsqfull, bsq.bsqcried, bsq.bsqwobb, bsq.bsqwgt, bsq.bsqthigh, bsq.bsqfood, bsq.bsqunfav, bsq.bsqconc, bsq.bsqbath, bsq.bsqbody, bsq.bsqcut, bsq.bsqsweet, bsq.bsqout, bsq.bsqround, bsq.bsqash, bsq.bsqworry, bsq.bsqstom, bsq.bsqlack, bsq.bsqrolls, bsq.bsqthin, bsq.bsqvomit, bsq.bsqroom, bsq.bsqdimp, bsq.bsqref, bsq.bsqpinch, bsq.bsqavoid, bsq.bsqlax, bsq.bsqself, bsq.bsqexer
DAS	
Total	das.dasfin, das.dasrec, das.dasrel, das.dasfrien, das.dascon, das.dasphil, das.dasinlaw, das.dasaim, das.dastime, das.dasmaj, das.dastask, das.dasact, das.dascar, das.dasdiv, das.dasfight, das.daswell, das.dasconf, das.dasmarr, das.dasquarr, das.dasnerve, das.daskiss, das.dasdegre, das.futrel, das.dasout, das.dasstim, das.daslaugh, das.dascalm, das.daswork, das.dastired, das.daslove,

Characteristic	**dataset.variable**
	das.dasaffec, das.dassex
Consensus	das.dasfin, das.dasrec, das.dasrel, das.dasfrien, das.dascon, das.dasphil, das.dasinlaw, das.dasaim, das.dastime, das.dasmaj, das.dastask, das.dasact, das.dascar
Satisfaction	das.dasdiv, das.dasfight, das.daswell, das.dasconf, das.dasmarr, das.dasquarr, das.dasnerve, das.daskiss, das.dasdegre, das.futrel
Cohesion	das.dasout, das.dasstim, das.daslaugh, das.dascalm, das.daswork
Affection expression	das.dastired, das.daslove, das.dasaffec, das.dassex
BDI	bdi.sadness, bdi.pessimsm, bdi.failure, bdi.dissatif, bdi.guilt, bdi.punish, bdi.disapp, bdi.blame, bdi.suicide, bdi.crying, bdi.irritate, bdi.lossint, bdi.decision, bdi.appear, bdi.work, bdi.chsleep, bdi.tired, bdi.chapp, bdi.wtloss, bdi.hlth, bdi.losssex
Gender	pef.sex
Bariatric surgery vs. lifestyle modification	pef.site_id

Table L: Comparison of values computed in integrity check to reference article Table 5B values

Variable	Total Manuscript (n=60)	Total DSIC (n=60)	Diff. (n=0)
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	37.7 (31.5, 45.0)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	52.5 (44.5, 57.6)	--	--
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	58.1 (41.5, 75.0)	--	--
Work (n=168)*			
Median (Q1, Q3)*	68.8 (62.5, 93.8)	--	--
Physical function (n=177)*			
Median (Q1, Q3)*	45.5 (31.8, 64.8)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	65.0 (42.5, 90.0)	--	--
Sex life (n=176)*			

Variable	Total Manuscript (n=60)	Total DSIC (n=60)	Diff. (n=0)
Median (Q1, Q3)*	75.0 (50.0, 96.9)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	60.7 (39.3, 78.6)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.4 (-1.0, .6)	-.4 (-1.0, .6)	0 (0, 0)
BSQ (n=170)			
Median (Q1, Q3)	83.0 (59.8, 109.2)	83.0 (59.5, 109.5)	0 (0.3, 0.3)
DAS			
Total (n=169)			
Median (Q1, Q3)	111.0 (97.0, 121.0)	111.0 (97.0, 119.0)	0 (0, 2.0)
Consensus (n=169)			
Median (Q1, Q3)	47.0 (42.8, 49.5)	47.0 (43.0, 52.0)	0 (0.2, 2.5)
Satisfaction (n=169)			
Median (Q1, Q3)	38.0 (34.0, 43.0)	38.0 (33.0, 43.0)	0 (1.0, 0)
Cohesion (n=169)			
Median (Q1, Q3)	16.0 (12.5, 18.5)	16.0 (12.0, 18.0)	0 (0.5, 0.5)
Affection expression (n=165)			
Median (Q1, Q3)	8.5 (6.2, 10.0)	8.5 (6.5, 10.0)	0 (0.3, 0)
BDI (n=166)			
Median (Q1, Q3)	7.0 (3.0, 11.0)	7.0 (2.0, 11.0)	0 (1.0, 0)

Variable	Bariatric Surgery Manuscript (n=35)	Bariatric Surgery DSIC (n=35)	Diff. (n=0)
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	35.0 (29.5, 41.6)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	52.5 (45.6, 58.2)	--	--
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	50.0 (38.7, 61.3)	--	--
Work (n=168)*			
Median (Q1, Q3)*	65.6 (57.8, 79.7)	--	--

Variable	Bariatric Surgery Manuscript (n=35)	Bariatric Surgery DSIC (n=35)	Diff. (n=0)
Physical function (n=177)*			
Median (Q1, Q3)*	36.4 (27.3, 56.8)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	60.0 (30.0, 75.0)	--	--
Sex life (n=176)*			
Median (Q1, Q3)*	68.8 (37.5, 87.5)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	46.4 (35.7, 67.9)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.6 (-1.2, .0)	-.6 (-1.2, .1)	0 (0, 0.1)
BSQ (n=170)			
Median (Q1, Q3)	89.0 (64.0, 111.0)	89.0 (61.0, 112.0)	0 (3.0, 1.0)
DAS			
Total (n=169)			
Median (Q1, Q3)	114.0 (96.2, 119.0)	114.0 (96.0, 119.0)	0 (0, 0.2, 0)
Consensus (n=169)			
Median (Q1, Q3)	46.5 (42.1, 48.8)	48.5 (40.0, 51.0)	2.0 (2.1, 2.2)
Satisfaction (n=169)			
Median (Q1, Q3)	38.0 (33.2, 43.0)	38.0 (33.0, 43.0)	0 (0.2, 0)
Cohesion (n=169)			
Median (Q1, Q3)	16.0 (12.0, 18.0)	16.0 (12.0, 18.0)	0 (0, 0)
Affection expression (n=165)			
Median (Q1, Q3)	9.0 (7.0, 10.0)	9.0 (7.0, 10.0)	0 (0, 0)
BDI (n=166)			
Median (Q1, Q3)	5.5 (1.2, 9.8)	6.0 (1.0, 10.0)	0.5 (0.2, 0.2)

Variable	Lifestyle Modification Manuscript (n=25)	Lifestyle Modification DSIC (n=25)	Diff.
SF-36*			
PCS (n=175)*			
Median (Q1, Q3)*	43.4 (33.2, 51.6)	--	--
MCS (n=175)*			
Median (Q1, Q3)*	53.3 (44.3, 57.2)	--	--

Variable	Lifestyle Modification Manuscript (n=25)	Lifestyle Modification DSIC (n=25)	Diff.
IWQOL*			
Total (n=177)*			
Median (Q1, Q3)*	77.0 (59.1, 90.1)	--	--
Work (n=168)*			
Median (Q1, Q3)*	93.8 (71.9, 100.0)	--	--
Physical function (n=177)*			
Median (Q1, Q3)*	67.0 (43.8, 83.0)	--	--
Public distress (n=177)*			
Median (Q1, Q3)*	85.0 (60.0, 98.8)	--	--
Sex life (n=176)*			
Median (Q1, Q3)*	93.8 (76.6, 100.0)	--	--
Self-esteem (n=177)*			
Median (Q1, Q3)*	76.8 (60.7, 85.7)	--	--
BIQLI (n=170)			
Median (Q1, Q3)	-.2 (-.4, 1.1)	-.2 (-.4, 1.1)	0 (0, 0)
BSQ (n=170)			
Median (Q1, Q3)	81.0 (59.0, 104.0)	81.0 (59.0, 104.0)	0 (0, 0)
DAS			
Total (n=169)			
Median (Q1, Q3)	111.0 (103.0, 123.0)	111.0 (103.0, 119.0)	0 (0, 4.0)
Consensus (n=169)			
Median (Q1, Q3)	47.0 (43.0, 50.0)	47.0 (44.0, 53.0)	0 (1.0, 3.0)
Satisfaction (n=169)			
Median (Q1, Q3)	40.0 (35.0, 42.0)	38.0 (34.0, 41.0)	2.0 (1.0, 1.0)
Cohesion (n=169)			
Median (Q1, Q3)	17.0 (14.0, 19.0)	17.0 (14.0, 19.0)	0 (0, 0)
Affection expression (n=165)			
Median (Q1, Q3)	8.0 (6.0, 9.2)	8.0 (6.0, 9.0)	0 (0, 0.2)
BDI (n=166)			
Median (Q1, Q3)	9.0 (4.5, 12.0)	9.0 (3.0, 12.0)	0 (1.5, 0)

*Note that these variables were not calculated because the forms are copyrighted and the rescored values could not be determined.

Attachment A: SAS Code

```
*** LABS Ancillary - Psychosocial Changes Associated with Weight Loss DSIC;
*** Programmer: Allyson Mateja;
*** Date: 12/29/2016;

title 'LABS Ancillary - Psychosocial Changes Associated with Weight Loss DSIC';
title2 ' ';

proc format;
       value sexf 1 = 'Male'
                  2 = 'Female';

       value ethnf 0 = 'Hispanic'
                   1 = 'NonHispanic';

       value educf 3 = 'Some high school'
                   4 = 'High school diploma or GED'
                   5 = 'Some college'
                   6 = 'Other posthigh school education'
                   7 = 'College diploma'
                   8 = 'Graduate or professional degree';

       value bmif 1 = '35 to <40'
                  2 = '40 to <50'
                  3 = '50 to <60'
                  4 = '60 to 66.5';

options nofmterr;

libname sas_data '/prj/niddk/ims_analysis/LABS/private_orig_data/LABS Ancillary Study - Psychosocial Changes Associated with Weight
Loss/LABS Ancillary Study - Psychosocial Changes Associated with Weight Loss/SAS Database/';
libname labs2dat '/prj/niddk/ims_analysis/LABS/private_orig_data/Longitudinal Assessment of Bariatric Surgery (LABS-2)/SAS Database/';

data pef;
       set sas_data.pef;

data comar;
       set sas_data.comar;

data ppm;
       set sas_data.ppm;

data fsfib;
       set sas_data.fsfib;
```

```
data efqb;
       set sas_data.efqb;

data lab_results;
       set sas_data.lab_results;

data iw;
       set sas_data.iw;

data dib;
       set labs2dat.dib;

data dib;
       length labs_id $7.;
       set dib;
       labs_id = strip(put(id, 7.));

data ef;
       set labs2dat.ef;

data po1;
       set labs2dat.po1;

data rcab;
       set labs2dat.rcab;

data pu2;
       set labs2dat.pu2;

data sq;
       set labs2dat.sq;

data calcvar;
       set labs2dat.calcvar;

data age_at_surgery;
       set labs2dat.age_at_surgery;

data das;
       set sas_data.das;

data das_baseline;
       set das;
       if visit = 1;

proc sort data = das_baseline;
       by id;
```

```
data bsq;
       set sas_data.bsq;

data bsq_baseline;
       set bsq;
       if visit = 1;

proc sort data = bsq_baseline;
       by id;

data biqol;
       set sas_data.biqol;

data biqol_baseline;
       set biqol;
       if visit = 1;

proc sort data = biqol_baseline;
       by id;

data bdi;
       set sas_data.bdi;

data bdi_baseline;
       set bdi;
       if visit = 1;

proc sort data = bdi_baseline;
       by id;

data calcvar;
       length labs_id $7.;
       set calcvar;
       labs_id = strip(put(id, 7.));

data age_at_surgery;
       length labs_id $7.;
       set age_at_surgery;
       labs_id = strip(put(id, 7.));

data sq;
       length labs_id $7.;
       set sq;
       labs_id = strip(put(id, 7.));

data ef;
       length labs_id $7.;
       set ef;
```

```
        labs_id = strip(put(id, 7.));

data rcab;
        length labs_id $7.;
        set rcab;
        labs_id = strip(put(id, 7.));

data pu2;
        length labs_id $7.;
        set pu2;
        labs_id = strip(put(id, 7.));

proc sort data = ef nodupkey;
        by labs_id;

proc sort data = sq;
        by labs_id surgdat;

data po1;
        length labs_id $7.;
        set po1;
        labs_id = strip(put(id, 7.));

proc sort data = po1 nodupkey;
        by labs_id;

proc sort data = pu2 ;
        by labs_id surgdat;

proc sort data = age_at_surgery;
        by labs_id surgdate;

data baseline_calcvar;
        set calcvar;
        if visit = 1;

proc sort data = baseline_calcvar nodupkey;
        by labs_id;

proc sort data = rcab nodupkey;
        by labs_id;

data po_updates;
        merge sq (in=val1)
              pu2 (keep=labs_id surgdat wgt)
              age_at_surgery (keep=labs_id surgdate primary age_s canceled rename = (surgdate = surgdat));
        by labs_id surgdat;
        if val1 then output po_updates;
```

```
data surgeries;
       merge ef  (in=val1 keep=labs_id)
             po1 (keep = labs_id po1dat age_c wgt sex racew raceb racea racei raceh raceo ethn hgtft hgtin)
             po_updates (in=val2 rename = (wgt = wgt_upd))
             baseline_calcvar (keep=labs_id dm2_p dyslipid_p hlipid_p lowHDL highTG_p htn_p)
             rcab (in=val1 keep=labs_id wgt rename = (wgt=rcab_wgt));
       by labs_id;
       if val1 and val2 then output surgeries;

data surgeries;
       set surgeries;
       if surgno = 0 ;

data surgeries secondary_surgery;
       set surgeries;
       if primary = 1 then output surgeries;
       else output secondary_surgery;

data surgeries;
       set surgeries;
       surg_time = surgdat - po1dat;
       if wgt_upd ne . and surg_time > 30 then wgt = wgt_upd;
       wgt_kg = round(wgt*0.453592,1);
       rcab_wgt_kg = round(rcab_wgt*0.453592,1);
       if rcab_wgt_kg < 0 then rcab_wgt_kg = wgt_kg;
       height_total = (hgtft + (hgtin/12))*0.3048;
       bmi = round(rcab_wgt_kg/(height_total**2), 0.1);

proc contents data = pef;
proc contents data = comar;
proc contents data = ppm;
proc contents data = fsfib;
proc contents data = lab_results;
proc contents data = iw;

proc sort data = pef; by id;
proc sort data = comar; by id;
proc sort data = ppm; by id;
proc sort data = fsfib; by id;
proc sort data = lab_results; by id;
proc sort data = iw; by id;
proc sort data = dib; by labs_id;
proc sort data = rcab; by labs_id;

data fsfib;
       set fsfib;
       if desire < 0  then desire = .;
```

```
if rdesire < 0 then rdesire = .;
if aroused < 0 then aroused = .;
if raroused < 0 then raroused = .;
if conarous < 0 then conarous = .;
if satarous < 0 then satarous = .;
if lubrico < 0 then lubrico = .;
if lubricd < 0 then lubricd = .;
if lubricm < 0 then lubricm = .;
if lubricc < 0 then lubricc = .;
if oftorg < 0 then oftorg = .;
if difforg < 0 then difforg = .;
if satorg < 0 then satorg = .;
if emoclose < 0 then emoclose = .;
if sexpart < 0 then sexpart = .;
if oversex < 0 then oversex = .;
if painvagd < 0 then painvagd = .;
if painvagf < 0 then painvagf = .;
if painvago < 0 then painvago = .;
if aroused = 1 then num_no_activity = 1;
else num_no_activity = 0;
if raroused = 1 then num_no_activity = num_no_activity+1;
if conarous = 1 then num_no_activity = num_no_activity+1;
if satarous = 1 then num_no_activity = num_no_activity+1;
if lubrico = 1 then num_no_activity = num_no_activity+1;
if lubricd = 1 then num_no_activity = num_no_activity+1;
if lubricm = 1 then num_no_activity = num_no_activity+1;
if lubricc = 1 then num_no_activity = num_no_activity+1;
if oftorg = 1 then num_no_activity = num_no_activity+1;
if difforg = 1 then num_no_activity = num_no_activity+1;
if satorg = 1 then num_no_activity = num_no_activity+1;
if emoclose = 1 then num_no_activity = num_no_activity+1;
if painvagd = 1 then num_no_activity = num_no_activity+1;
if painvagf = 1 then num_no_activity = num_no_activity+1;
if painvago = 1 then num_no_activity = num_no_activity+1;
desire2=6-desire;
rdesire2=6-rdesire;
aroused2=7-aroused;
if aroused2=6 then aroused2=0;
raroused2=7-raroused;
if raroused2=6 then raroused2=0;
conarous2=7-conarous;
if conarous2=6 then conarous2=0;
satarous2=7-satarous;
if satarous2=6 then satarous2=0;
lubrico2=7-lubrico;
if lubrico2=6 then lubrico2=0;
lubricm2=7-lubricm;
if lubricm2=6 then lubricm2=0;
```

```
        oftorg2=7-oftorg;
        if oftorg2=6 then oftorg2=0;
        satorg2=7-satorg;
        if satorg2=6 then satorg2=0;
        emoclose2=7-emoclose;
        if emoclose2=6 then emoclose2=0;
        lubricd2 = lubricd-1;
        lubricc2 = lubricc-1;
        difforg2 = difforg-1;
        sexpart2 = 6-sexpart;
        oversex2 = 6-oversex;
        painvagd2 = painvagd-1;
        painvagf2 = painvagf-1;
        painvago2 = painvago-1;

data efqb;
        set efqb;
        if erecact < 0 then erecact = .;
        if sexstim < 0 then sexstim = .;
        if attsex < 0 then attsex = .;
        if erecpen < 0 then erecpen = .;
        if ereccom < 0 then ereccom = .;
        if attinter < 0 then attinter = .;
        if intersat < 0 then intersat = .;
        if enjsex < 0 then enjsex = .;
        if oftejac < 0 then oftejac = .;
        if stimorg < 0 then stimorg = .;
        if sexdes < 0 then sexdes = .;
        if levsex < 0 then levsex = .;
        if sexlife1 < 0 then sexlife1 = .;
        if sexrel < 0 then sexrel = .;
        if conerec < 0 then conerec = .;
        if erecact = 1 then num_no_activity = 1;
        else num_no_activity = 0;
        if sexstim = 1 then num_no_activity = num_no_activity + 1;
        if attsex = 1 then num_no_activity = num_no_activity + 1;
        if erecpen = 1 then num_no_activity = num_no_activity + 1;
        if ereccom = 1 then num_no_activity = num_no_activity + 1;
        if attinter = 1 then num_no_activity = num_no_activity + 1;
        if intersat = 1 then num_no_activity = num_no_activity + 1;
        if enjsex = 1 then num_no_activity = num_no_activity + 1;
        if oftejac = 1 then num_no_activity = num_no_activity + 1;
        if stimorg = 1 then num_no_activity = num_no_activity + 1;
        ERECACT2=ERECACT-1;
        SEXSTIM2=SEXSTIM-1;
        ATTSEX2=ATTSEX-1;
        ERECPEN2=ERECPEN-1;
        ERECCOM2=ERECCOM-1;
```

```
data iw;
       set iw;
       if pickobj < 0 then pickobj = .;
       if tieshoe < 0 then tieshoe = .;
       if upchair < 0 then upchair = .;
       if usestair < 0 then usestair = .;
       if getdress < 0 then getdress = .;
       if mobility < 0 then mobility = .;
       if crossleg < 0 then crossleg = .;
       if sob < 0 then sob = .;
       if joints < 0 then joints = .;
       if lowerleg < 0 then lowerleg = .;
       if worhlth < 0 then worhlth = .;
       if selfcons < 0 then selfcons = .;
       if sesteem < 0 then esteem = .;
       if unsure < 0 then unsure = .;
       if nolike < 0 then nolike = .;
       if rejected < 0 then rejected = .;
       if mirrors < 0 then mirrors = .;
       if publicpl < 0 then publicpl = .;
       if sexact < 0 then sexact = .;
       if sexdesir < 0 then sexdesir = .;
       if sexperf < 0 then sexperf = .;
       if avoidsex < 0 then avoidsex = .;
       if ridicule < 0 then ridicule = .;
       if fitseats < 0 then fitseats = .;
       if fitaisle < 0 then fitaisle = .;
       if strchair < 0 then strchair = .;
       if discrim < 0 then discrim = .;
       if accomp < 0 then accomp = .;
       if lessprod < 0 then lessprod = .;
       if raises < 0 then raises = .;
       if jobint < 0 then jobint = .;

data ppm_base;
       set ppm;
       if visit = 1;

data lab_results_base;
       set lab_results;
       if visit = 1;

data iw_base;
       set iw;
       if visit = 1;

data subjects;
```

```
length group $30. race $10.;
merge pef      (in=val1)
      comar    (keep=id sared dhyp diabl sardia dhypy othrc dother hypmch)
      ppm_base (drop=site_id)
      lab_results_base (drop=site_id)
      iw_base          (drop=site_id)
      dib       (in=val2 drop = site_id id keep=labs_id educ rename = (labs_id = id))
      rcab (in=val2 drop = site_id id keep=labs_id wcirc1 wcirc2 wcirc3 rename = (labs_id = id))
      surgeries (in=val3 drop=id site_id keep=labs_id bmi dm2_p htn_p rename = (labs_id=id));
by id;
if site_id  = 500 then group = 'Lifestyle modification';
else group = 'Bariatric surgery';
if age_c < 0 then age_c = .;
if racew = 1 and racea = 0 and raceb = 0 and raceh = 0 and racei = 0 and raceo = 0 then race = 'Caucasian';
else if racew = 0 and racea = 0 and raceb = 1 and raceh = 0 and racei = 0 and raceo = 0 then race = 'Black';
else race = 'Other';
if val2 then sared = educ;
if sared < 0 then sared = .;
if hgtcm < 0 then hgtcm = .;
if not val3 then bmi = wgtkg/((hgtcm/100)**2);
if 35 <= bmi < 40 then bmi_group = 1;
else if 40 <= bmi < 50 then bmi_group = 2;
else if 50 <= bmi < 60 then bmi_group = 3;
else if bmi >= 60 then bmi_group = 4;
if (dother = 0 or hypmch = 0) and othrc < 0 and dhypy < 0 then dhyp = 0 ;
if . < sardia < 0 then sardia = 0;
if . < dhyp < 0 then dhyp = 0;
if val3 then do;
       sardia = dm2_p;
       dhyp = htn_p;
end;
if wcirc1 < 0 then wcirc1 = .;
if wcirc2 < 0 then wcirc2 = .;
if wcirc3 < 0 then wcirc3 = .;
waist_circum_sum = sum(wcirc1, wcirc2, wcirc3);
waist_circum_nmiss = nmiss(wcirc1, wcirc2, wcirc3);
if waist_circum_nmiss in (0,1) then waist_circum = waist_circum_sum/(3-waist_circum_nmiss);
estradiol = input(e2, 10.);
total_test = input(tottest, 10.);
follicle = input(fsh, 10.);
luteinizing = input(lh, 10.);
if shbg in ('>300', '>300.') then shbg = 300;
if dheas in ('<15.', '<15.0') then dheas = 15;
sex_hormone_binding = input(shbg, 10.);
dehydro = input(dheas, 10.);
free_test = input(freetest, 10.);
total_physical = sum(pickobj, tieshoe, upchair, usestair, getdress, mobility, crossleg, sob, joints, lowerleg, worhlth);
nmiss_physical = nmiss(pickobj, tieshoe, upchair, usestair, getdress, mobility, crossleg, sob, joints, lowerleg, worhlth);
```

```
        if nmiss_physical >= 6 then total_physical = .;
        total_sesteem = sum(selfcons, sesteem, unsure, nolike, rejected, mirrors, publicpl);
        nmiss_sesteem = nmiss(selfcons, sesteem, unsure, nolike, rejected, mirrors, publicpl);
        if nmiss_sesteem >= 4 then total_sesteem = .;
        total_sexual = sum(sexact, sexdesir, sexperf, avoidsex);
        nmiss_sexual = nmiss(sexact, sexdesir, sexperf, avoidsex);
        if nmiss_sexual > 2 then total_sexual = .;
        total_public = sum(ridicule, fitseats, fitaisle, strchair, discrim);
        nmiss_public = nmiss(ridicule, fitseats, fitaisle, strchair, discrim);
        if nmiss_public >= 3 then total_public = .;
        total_work = sum(accomp, lessprod, raises, jobint);
        nmiss_work = nmiss(accomp, lessprod, raises, jobint);
        if nmiss_work > 2 then total_work = .;
        total_iwqol = sum(total_physical, total_sesteem, total_sexual, total_public, total_work);
        if nmiss(pickobj, tieshoe, upchair, usestair, getdress, mobility, crossleg, sob, joints, lowerleg, worhlth, selfcons, sesteem,
unsure, nolike, rejected, mirrors, publicpl, sexact, sexdesir, sexperf, avoidsex,
                 ridicule, fitseats, fitaisle, strchair, discrim, accomp, lessprod, raises, jobint) >= 8 then total_iwqol = .;
        if val1 then output;

data fsfib;
        merge fsfib    (in=val1 drop=site_id)
              subjects (in=val2 keep=group sex id);
        by id;
        nmiss_desire = nmiss(desire2, rdesire2);
        desire_score = sum(desire2,rdesire2)*0.6;
        if nmiss_desire >=1 then desire_score = .;
        nmiss_arousal = nmiss(aroused2,raroused2,conarous2,satarous2);
        arousal_score = sum(aroused2,raroused2,conarous2,satarous2)*0.3;
        if nmiss_arousal >= 2 then arousal_score = .;
        nmiss_lubrication = nmiss(lubrico2, lubricd2, lubricm2, lubricc2);
        lubrication_score = sum(lubrico2, lubricd2, lubricm2, lubricc2)*0.3;
        if nmiss_lubrication >= 2 then lubrication_score=.;
        nmiss_orgasm = nmiss (oftorg2, difforg2, satorg2);
        orgasm_score = sum (oftorg2, difforg2, satorg2)*0.4;
        if nmiss_orgasm >= 1 then orgasm_score = .;
        nmiss_satis = nmiss(emoclose2, sexpart2, oversex2);
        satis_score = sum(emoclose2, sexpart2, oversex2)*0.4;
        if nmiss_satis >= 1 then satis_score = .;
        nmiss_pain = nmiss(painvagd2, painvagf2, painvago2);
        pain_score = sum(painvagd2, painvagf2, painvago2)*0.4;
        if nmiss_pain >= 1 then pain_score = .;
        nmiss_total = nmiss(desire2, rdesire2, aroused2,raroused2,conarous2,satarous2, lubrico2, lubricd2, lubricm2, lubricc2, oftorg2,
difforg2, satorg2, emoclose2, sexpart2, oversex2, painvagd2, painvagf2, painvago2);
        total_score = sum(desire_score, arousal_score, lubrication_score, orgasm_score, satis_score, pain_score);
        if desire_score = . or arousal_score = . or lubrication_score = . or orgasm_score = . or satis_score = . or pain_score = . then
total_score = .;
        if val2 and num_no_activity < 8 then output;
```

```
proc sort data = efqb;
       by id;

data efqb;
       merge efqb     (in=val1 drop=site_id)
             subjects (in=val2 keep=group sex id);
       by id;
       nmiss_erectile = nmiss(conerec, erecact2, sexstim2, attsex2, erecpen2, ereccom2);
       erectile_score = sum(conerec, erecact2, sexstim2, attsex2, erecpen2, ereccom2);
       if nmiss_erectile >= 2 then erectile_score = .;
       nmiss_orgasmic = nmiss(oftejac, stimorg);
       orgasmic_score = (sum(oftejac, stimorg))-2;
       if nmiss_orgasmic >= 1 then orgasmic_score = .;
       nmiss_desire = nmiss(sexdes, levsex);
       desire_score = sum(sexdes, levsex);
       if nmiss_desire >= 1 then desire_score = .;
       nmiss_intercourse_satis = nmiss(intersat, enjsex, attinter);
       intercourse_satis_score = (sum(intersat, enjsex, attinter))-3;
       if nmiss_intercourse_satis >= 1 then intercourse_satis_score = .;
       nmiss_overall_satis = nmiss(sexlife1, sexrel);
       overall_satis_score = sum(sexlife1, sexrel);
       if nmiss_overall_satis >= 1 then overall_satis_score = .;
       if val2 and num_no_activity < 6 then output;

proc sort data = fsfib;
       by group;

proc freq data = fsfib;
       tables group;
       where sex = 2;

proc means data = fsfib n median p25 p75;
       var total_score;
       class group;
       types () group;
       where sex = 2;
       title3 'Table 2 - Total FSFI Score';

proc means data = fsfib n median p25 p75;
       var arousal_score;
       class group;
       types () group;
       where sex = 2;
       title3 'Table 2 - Arousal';

proc means data = fsfib n median p25 p75;
       var lubrication_score;
       class group;
```

```
        types () group;
        where sex = 2;
        title3 'Table 2 - Lubrication';

proc means data = fsfib n median p25 p75;
        var desire_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 2 - Desire';

proc means data = fsfib n median p25 p75;
        var orgasm_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 2 - Orgasm';

proc means data = fsfib n median p25 p75;
        var satis_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 2 - Satisfaction';

proc means data = fsfib n median p25 p75;
        var pain_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 2 - Pain';

proc freq data = efqb;
        tables group;
        where sex = 1;
        title3 ' ' ;

proc means data = efqb n median p25 p75;
        var erectile_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 3 - Erectile Function Score';

proc means data = efqb n median p25 p75;
        var orgasmic_score;
        class group;
        types () group;
```

```
        where sex = 1;
        title3 'Table 3 - Orgasmic Function Score';

proc means data = efqb n median p25 p75;
        var desire_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 3 - Sexual Desire Score';

proc means data = efqb n median p25 p75;
        var intercourse_satis_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 3 - Intercourse Satisfaction Score';

proc means data = efqb n median p25 p75;
        var overall_satis_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 3 - Overall Satisfaction Score';

proc sort data = subjects;
        by group;

proc means data = subjects n median p25 p75;
        var estradiol;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female Estradiol';

proc means data = subjects n median p25 p75;
        var total_test;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female Total Test.';

proc means data = subjects n median p25 p75;
        var follicle;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female FSH';
```

```
proc means data = subjects n median p25 p75;
        var luteinizing;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female LH';

proc means data = subjects n median p25 p75;
        var sex_hormone_binding;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female SHBG';

proc means data = subjects n median p25 p75;
        var dehydro;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 4 - Female DHEA-S';

proc means data = subjects n median p25 p75;
        var total_test;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 4 - Male Total Test.';

proc means data = subjects n median p25 p75;
        var free_test;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 4 - Male Free Test.';

proc means data = subjects n median p25 p75;
        var luteinizing;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 4 - Male LH';

proc means data = subjects n median p25 p75;
        var sex_hormone_binding;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 4 - Male SHBG';
```

```
proc means data = subjects n median p25 p75;
       var total_iwqol;
       class group;
       types () group;
       where sex = 2;

proc means data = subjects n median p25 p75;
       var total_work;
       class group;
       types () group;
       where sex = 2;

proc means data = subjects n median p25 p75;
       var total_physical;
       class group;
       types () group;
       where sex = 2;

proc means data = subjects n median p25 p75;
       var total_public;
       class group;
       types () group;
       where sex = 2;

proc means data = subjects n median p25 p75;
       var total_sexual;
       class group;
       types () group;
       where sex = 2;

proc means data = subjects n median p25 p75;
       var total_sesteem;
       class group;
       types () group;
       where sex = 2;

proc freq data = subjects;
       tables sex*group /list;
       format sex sexf.;
       title3 'Table 1 - Gender and Group';

proc sort data = subjects;
       by descending sex group;

proc means data = subjects median p25 p75 min max;
       var age_c;
       by descending sex group;
```

```
        format sex sexf.;
        title3 'Table 1 - Age (yr)';

proc freq data = subjects;
        tables race /list;
        by descending sex group;
        format sex sexf.;
        title3 'Table 1 - Race';

proc freq data = subjects;
        tables ethn;
        by descending sex group;
        format sex sexf. ethn ethnf.;
        title3 'Table 1 - Ethnicity';

proc freq data = subjects;
        tables sared;
        by descending sex group;
        format sex sexf. sared educf.;
        title3 'Table 1 - Highest education level';

proc means data = subjects median p25 p75 min max;
        var bmi;
        by descending sex group;
        format sex sexf.;
        title3 'Table 1 - BMI';

proc freq data = subjects;
        tables bmi_group /missing;
        by descending sex group;
        format sex sexf. bmi_group bmif.;
        title3 'Table 1 - BMI group';

proc means data = subjects median p25 p75 min max;
        var waist_circum;
        by descending sex group;
        format sex sexf.;
        title3 'Table 1 - Waist circumference';

proc freq data = subjects;
        tables sardia;
        by descending sex group;
        format sex sexf. sared educf.;
        title3 'Table 1 - History of diabetes';

proc freq data = subjects;
        tables dhyp;
        by descending sex group;
```

```
        format sex sexf. sared educf.;
        title3 'Table 1 - History of hypertension';

proc sort data = subjects;
        by id;

data das_baseline;
        merge das_baseline (in=val1)
              subjects     (in=val2 keep=id sex group);
        by id;
        if dasfin < 0 then dasfin = .;
        if dasrec < 0 then dasrec = .;
        if dasrel < 0 then dasrel = .;
        if dasaffec < 0 then dasaffec = .;
        if dasfrien < 0 then dasfrien = .;
        if dassex < 0 then dassex = .;
        if dascon < 0 then dascon = .;
        if dasphil < 0 then dasphil = .;
        if dasinlaw < 0 then dasinlaw = .;
        if dasaim < 0 then dasaim = .;
        if dastime < 0 then dastime = .;
        if dasmaj < 0 then dasmaj = .;
        if dastask < 0 then dastask = .;
        if dasact < 0 then dasact = .;
        if dascar < 0 then dascar = .;
        if dasdiv < 0 then dasdiv = .;
        if dasfight < 0 then dasfight = .;
        if daswell < 0 then daswell = .;
        if dasconf < 0 then dasconf = .;
        if dasmarr < 0 then dasmarr = .;
        if dasquarr < 0 then dasquarr = .;
        if dasnerve < 0 then dasnerve = .;
        if daskiss < 0 then daskiss = .;
        if dasout < 0 then dasout = .;
        if dasstim < 0 then dasstim = .;
        if daslaugh < 0 then daslaugh = .;
        if dascalm < 0 then dascalm = .;
        if daswork < 0 then daswork = .;
        if dastired < 0 then dastired = .;
        if daslove < 0 then daslove = .;
        if dasdegre < 0 then dasdegre = .;
        if futrel < 0 then futrel = .;
        dasfins=6-dasfin;
        dasrecs=6-dasrec;
        dasrels=6-dasrel;
        dasaffecs=6-dasaffec;
        dasfriens=6-dasfrien;
        dassexs=6-dassex;
```

```
        dascons=6-dascon;
        dasphils=6-dasphil;
        dasinlaws=6-dasinlaw;
        dasaims=6-dasaim;
        dastimes=6-dastime;
        dasmajs=6-dasmaj;
        dastasks=6-dastask;
        dasacts=6-dasact;
        dascars=6-dascar;
        dasdivs=dasdiv-1;
        dasfights=dasfight-1;
        daswells=6-daswell;
        dasconfs=6-dasconf;
        dasmarrs=dasmarr-1;
        dasquarrs=dasquarr-1;
        dasnerves=dasnerve-1;
        daskisss=5-daskiss;
        dasouts=5-dasout;
        dasstims=dasstim-1;
        daslaughs=daslaugh-1;
        dascalms=dascalm-1;
        dasworks=daswork-1;
        dastireds=1-dastired;
        dasloves=1-daslove;
        dasdegres=dasdegre-1;
        futrels=6-futrel;
        nmiss_consensus = nmiss(dasfins, dasrecs, dasrels, dasfriens, dascons, dasphils, dasinlaws, dasaims, dastimes, dasmajs,
dastasks, dasacts, dascars);
        consensus_score = sum(dasfins, dasrecs, dasrels, dasfriens, dascons, dasphils, dasinlaws, dasaims, dastimes, dasmajs, dastasks,
dasacts, dascars);
        if nmiss_consensus >= 3 then consensus_score = .;
        nmiss_satisfaction = nmiss(dasdivs, dasfights, daswells, dasconfs, dasmarrs, dasquarrs, dasnerves, daskisss, dasdegres,
futrels);
        satisfaction_score = sum(dasdivs, dasfights, daswells, dasconfs, dasmarrs, dasquarrs, dasnerves, daskisss, dasdegres, futrels);
        if nmiss_satisfaction >= 2 then satisfaction_score = .;
        nmiss_cohesion = nmiss(dasouts, dasstims, daslaughs, dascalms, dasworks);
        cohesion_score = sum(dasouts, dasstims, daslaughs, dascalms, dasworks);
        if nmiss_cohesion >= 2 then cohesion_score = .;
        nmiss_affectional = nmiss(dastireds, dasloves, dasaffecs, dassexs);
        affectional_score = sum(dastireds, dasloves, dasaffecs, dassexs);
        if nmiss_affectional >= 1 then affectional_score = .;
        nmiss_overall = nmiss(dasfins, dasrecs, dasrels, dasfriens, dascons, dasphils, dasinlaws, dasaims, dastimes, dasmajs, dastasks,
dasacts, dascars, dasdivs, dasfights, daswells,
                          dasconfs, dasmarrs, dasquarrs, dasnerves, daskisss, dasdegres, futrels, dasouts, dasstims, daslaughs,
dascalms, dasworks, dastireds, dasloves, dasaffecs, dassexs);
        overall_score = sum(dasfins, dasrecs, dasrels, dasfriens, dascons, dasphils, dasinlaws, dasaims, dastimes, dasmajs, dastasks,
dasacts, dascars, dasdivs, dasfights, daswells,
```

```
                          dasconfs, dasmarrs, dasquarrs, dasnerves, daskisss, dasdegres, futrels, dasouts, dasstims, daslaughs,
dascalms, dasworks, dastireds, dasloves, dasaffecs, dassexs);
       if nmiss_overall >= 8 then overall_score = .;

data bsq_baseline;
       merge bsq_baseline (in=val1)
             subjects     (in=val2 keep=id sex group);
       by id;
  if bsqshape < 0 then bsqshape = .;
  if bsqdiet < 0 then bsqdiet = .;
  if bsqlarge < 0 then bsqlarge = .;
  if bsqfat < 0 then bsqfat = .;
  if bsqfirm < 0 then bsqfirm = .;
  if bsqfull < 0 then bsqfull = .;
  if bsqcried < 0 then bsqcried = .;
  if bsqwobb < 0 then bsqwobb = .;
  if bsqwgt < 0 then bsqwgt = .;
  if bsqthigh < 0 then bsqthigh = .;
  if bsqfood < 0 then bsqfood = .;
  if bsqunfav < 0 then bsqunfav = .;
  if bsqconc < 0 then bsqconc = .;
  if bsqbath < 0 then bsqbath = .;
  if bsqbody < 0 then bsqbody = .;
  if bsqcut < 0 then bsqcut = .;
  if bsqsweet < 0 then bsqsweet = .;
  if bsqout < 0 then bsqout = .;
  if bsqround < 0 then bsqround = .;
  if bsqash < 0 then bsqash = .;
       if bsqworry < 0 then bsqworry = .;
       if bsqstom < 0 then bsqstom = .;
       if bsqlack < 0 then bsqlack = .;
       if bsqrolls < 0 then bsqrolls = .;
       if bsqthin < 0 then bsqthin = .;
       if bsqvomit < 0 then bsqvomit = .;
       if bsqroom < 0 then bsqroom = .;
       if bsqdimp < 0 then bsqdimp = .;
       if bsqref < 0 then bsqref = .;
       if bsqpinch < 0 then bsqpinch = .;
       if bsqavoid < 0 then bsqavoid = .;
       if bsqlax < 0 then bsqlax = .;
       if bsqself < 0 then bsqself = .;
       if bsqexer < 0 then bsqexer = .;
       total_bsq = sum(bsqshape, bsqdiet, bsqlarge, bsqfat, bsqfirm, bsqfull, bsqcried, bsqwobb, bsqwgt, bsqthigh, bsqfood, bsqunfav,
bsqconc, bsqbath, bsqbody, bsqcut, bsqsweet, bsqout, bsqround, bsqash,
                     bsqworry, bsqstom, bsqlack, bsqrolls, bsqthin, bsqvomit, bsqroom, bsqdimp, bsqref, bsqpinch, bsqavoid, bsqlax,
bsqself, bsqexer);
       if val2 then output;
```

```
data biqol_baseline;
       merge biqol_baseline (in=val1)
             subjects     (in=val2 keep=id sex group);
       by id;
       if bipera < -3 then bipera = .;
       if bifmf < -3 then bifmf = .;
       if biownsex < -3 then biownsex = .;
       if biothsex < -3 then biothsex = .;
       if binewp < -3 then binewp = .;
       if biwork < -3 then biwork = .;
       if bifriend < -3 then bifriend = .;
       if bifam < -3 then bifam = .;
       if biemot < -3 then biemot = .;
       if bilife < -3 then bilife = .;
       if bisexpar < -3 then bisexpar = .;
       if bislife < -3 then bislife = .;
       if bieat < -3 then bieat = .;
       if biwgt < -3 then biwgt = .;
       if biexer < -3 then biexer = .;
       if biapper < -3 then biapper = .;
       if bigroom < -3 then bigroom = .;
       if biconf < -3 then biconf = .;
       if bihappy < -3 then bihappy = .;
       nmiss_biqol = nmiss(bipera, bifmf, biownsex, biothsex, binewp, biwork, bifriend, bifam, biemot, bilife, bisexpar, bislife,
bieat, biwgt, biexer, biapper, bigroom, biconf, bihappy);
       biqol_total = sum(bipera, bifmf, biownsex, biothsex, binewp, biwork, bifriend, bifam, biemot, bilife, bisexpar, bislife, bieat,
biwgt, biexer, biapper, bigroom, biconf, bihappy);
       biqol_avg = biqol_total/(19-nmiss_biqol);
       if val2 then output;

data bdi_baseline;
       merge bdi_baseline (in=val1)
             subjects     (in=val2 keep=id sex group);
       by id;
       if sadness < 0 then sadness = .;
       if pessimsm < 0 then pessimsm = .;
       if failure < 0 then failure = .;
       if dissatif < 0 then dissatif = .;
       if guilt < 0 then guilt = .;
       if punish < 0 then punish = .;
       if disapp < 0 then disapp = .;
       if blame < 0 then blame = .;
       if suicide < 0 then suicide = .;
       if crying < 0 then crying = .;
       if irritate < 0 then irritate = .;
       if lossint < 0 then lossint = .;
       if decision < 0 then decision = .;
       if appear < 0 then appear = .;
```

```
        if work < 0 then work = .;
        if chsleep < 0 then chsleep = .;
        if tired < 0 then tired = .;
        if chapp  < 0 then chapp = .;
        if wtloss < 0 then wtloss = .;
        if hlth < 0 then hlth = .;
        if losssex < 0 then losssex = .;
        if sadness in (2,3) then sadness = 2;
        if sadness = 4 then sadness = 3;
        if pessimsm in (2,3) then pessimsm = 2;
        if pessimsm = 4 then pessimsm = 3;
        if failure in (2,3) then failure = 2;
        if failure = 4 then failure = 3;
        if dissatif in (1,2) then dissatif = 1;
        if dissatif = 3 then dissatif = 2;
        if dissatif = 4 then dissatif = 3;
        if guilt in (2,3) then guilt = 2;
        if guilt = 4 then guilt = 3;
        if punish in (3,4) then punish = 3;
        if disapp in (1,2) then disapp = 1;
        if disapp = 3 then disapp = 2;
        if disapp = 4 then disapp = 3;
        if suicide in (2,3,4) then suicide = 2;
        if suicide = 5 then suicide = 3;
        if work in (1,2) then work = 1;
        if work = 3 then work = 2;
        if work = 4 then work = 3;
        nmiss_total = nmiss(sadness, pessimsm, failure, dissatif, guilt, punish, disapp, blame, suicide, crying, irritate, lossint,
decision, appear, work, chsleep, tired, chapp, wtloss, hlth, losssex);
        bdi_total = sum(sadness, pessimsm, failure, dissatif, guilt, punish, disapp, blame, suicide, crying, irritate, lossint,
decision, appear, work, chsleep, tired, chapp, wtloss, hlth, losssex);
        if nmiss_total > 5 then bdi_total = .;
        if val2 then output;

proc means data = biqol_baseline n median p25 p75;
        var biqol_avg;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - BIQOL Average Score';

proc means data = bsq_baseline n median p25 p75;
        var total_bsq;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - BSQ Overall Score';
```

```
proc means data = das_baseline n median p25 p75;
        var overall_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - DAS Overall Score';

proc means data = das_baseline n median p25 p75;
        var consensus_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - DAS Consensus Score';

proc means data = das_baseline n median p25 p75;
        var satisfaction_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - DAS Satisfaction Score';

proc means data = das_baseline n median p25 p75;
        var cohesion_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - DAS Cohesion Score';

proc means data = das_baseline n median p25 p75;
        var affectional_score;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - DAS Affectional expression Score';

proc means data = bdi_baseline n median p25 p75;
        var bdi_total;
        class group;
        types () group;
        where sex = 2;
        title3 'Table 5A - BDI Total Score';

proc means data = biqol_baseline n median p25 p75;
        var biqol_avg;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - BIQOL Average Score';
```

```
proc means data = bsq_baseline n median p25 p75;
        var total_bsq;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - BSQ Overall Score';

proc means data = das_baseline n median p25 p75;
        var overall_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - DAS Overall Score';

proc means data = das_baseline n median p25 p75;
        var consensus_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - DAS Consensus Score';

proc means data = das_baseline n median p25 p75;
        var satisfaction_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - DAS Satisfaction Score';

proc means data = das_baseline n median p25 p75;
        var cohesion_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - DAS Cohesion Score';

proc means data = das_baseline n median p25 p75;
        var affectional_score;
        class group;
        types () group;
        where sex = 1;
        title3 'Table 5B - DAS Affectional expression Score';

proc means data = bdi_baseline n median p25 p75;
        var bdi_total;
        class group;
        types () group;
        where sex = 1;
```

```
title3 'Table 5B - BDI Total Score';
```