

General Linear Model

Notes		
Output Created		12-JUL-2022 14:40:32
Comments		
Input	Data	S:\Quant\data cleaning\V2\KNIV3\Analysis\An alysis 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	(Cohort_Group = 1 Cohort_Group = 2 Cohort_Group = 3) & (status_code_2 = 4 status_code_2 = 6) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	8313
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		GLM init_bmi_clean bmi_16wk_clean WITH Age_at_ref2 Gender2 Cohort_Group IMD_Quintile Local_Authority /WSFACTOR=BMI 2 Simple(1) /METHOD=SSTYPE(3) /EMMEANS=TABLES(BMI) WITH(Age_at_ref2=MEAN Gender2=MEAN Cohort_Group=MEAN IMD_Quintile=MEAN Local_Authority=MEAN)COMP ARE ADJ(BONFERRONI) /PRINT=DESCRIPTIVE ETASQ /CRITERIA=ALPHA(.05) /WSDSIGN=BMI /DESIGN=Age_at_ref2 Gender2 Cohort_Group IMD_Quintile Local_Authority.
Resources	Processor Time	00:00:00.20
	Elapsed Time	00:00:00.21

**Within-Subjects
Factors**

Measure: MEASURE_1

Dependent

BMI	Variable
1	init_bmi_clean
2	bmi_16wk_clean

Descriptive Statistics

	Mean	Std. Deviation	N
init_bmi_clean	31.2434	6.45857	6709
bmi_16wk_clean	30.6973	6.24493	6709

Multivariate Tests ^a							
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
BMI	Pillai's Trace	.012	80.632 ^b	1.000	6703.000	<.001	.012
	Wilks' Lambda	.988	80.632 ^b	1.000	6703.000	<.001	.012
	Hotelling's Trace	.012	80.632 ^b	1.000	6703.000	<.001	.012
	Roy's Largest Root	.012	80.632 ^b	1.000	6703.000	<.001	.012
BMI * Age_at_ref2	Pillai's Trace	.008	50.780 ^b	1.000	6703.000	<.001	.008
	Wilks' Lambda	.992	50.780 ^b	1.000	6703.000	<.001	.008
	Hotelling's Trace	.008	50.780 ^b	1.000	6703.000	<.001	.008
	Roy's Largest Root	.008	50.780 ^b	1.000	6703.000	<.001	.008
BMI * Gender2	Pillai's Trace	.002	10.526 ^b	1.000	6703.000	.001	.002
	Wilks' Lambda	.998	10.526 ^b	1.000	6703.000	.001	.002
	Hotelling's Trace	.002	10.526 ^b	1.000	6703.000	.001	.002
	Roy's Largest Root	.002	10.526 ^b	1.000	6703.000	.001	.002
BMI * Cohort_Group	Pillai's Trace	.000	.651 ^b	1.000	6703.000	.420	.000
	Wilks' Lambda	1.000	.651 ^b	1.000	6703.000	.420	.000
	Hotelling's Trace	.000	.651 ^b	1.000	6703.000	.420	.000
	Roy's Largest Root	.000	.651 ^b	1.000	6703.000	.420	.000
BMI * IMD_Quintile	Pillai's Trace	.000	.393 ^b	1.000	6703.000	.531	.000
	Wilks' Lambda	1.000	.393 ^b	1.000	6703.000	.531	.000
	Hotelling's Trace	.000	.393 ^b	1.000	6703.000	.531	.000
	Roy's Largest Root	.000	.393 ^b	1.000	6703.000	.531	.000
BMI * Local_Authority	Pillai's Trace	.000	1.471 ^b	1.000	6703.000	.225	.000
	Wilks' Lambda	1.000	1.471 ^b	1.000	6703.000	.225	.000
	Hotelling's Trace	.000	1.471 ^b	1.000	6703.000	.225	.000
	Roy's Largest Root	.000	1.471 ^b	1.000	6703.000	.225	.000

a. Design: Intercept + Age_at_ref2 + Gender2 + Cohort_Group + IMD_Quintile + Local_Authority

Within Subjects Design: BMI

b. Exact statistic

Mauchly's Test of Sphericity ^a				
Measure: MEASURE_1				
Within Subjects Effect	Mauchly's W	df	Sig.	Epsilon ^b

		Approx. Chi-Square			Greenhouse-Geisser	Huynh-Feldt	Lower-bound
BMI	1.000	.000	0	.	1.000	1.000	1.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Age_at_ref2 + Gender2 + Cohort_Group + IMD_Quintile + Local_Authority

Within Subjects Design: BMI

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
BMI	Sphericity Assumed	231.088	1	231.088	80.632	<.001	.012
	Greenhouse-Geisser	231.088	1.000	231.088	80.632	<.001	.012
	Huynh-Feldt	231.088	1.000	231.088	80.632	<.001	.012
	Lower-bound	231.088	1.000	231.088	80.632	<.001	.012
BMI * Age_at_ref2	Sphericity Assumed	145.534	1	145.534	50.780	<.001	.008
	Greenhouse-Geisser	145.534	1.000	145.534	50.780	<.001	.008
	Huynh-Feldt	145.534	1.000	145.534	50.780	<.001	.008
	Lower-bound	145.534	1.000	145.534	50.780	<.001	.008
BMI * Gender2	Sphericity Assumed	30.166	1	30.166	10.526	.001	.002
	Greenhouse-Geisser	30.166	1.000	30.166	10.526	.001	.002
	Huynh-Feldt	30.166	1.000	30.166	10.526	.001	.002
	Lower-bound	30.166	1.000	30.166	10.526	.001	.002
BMI * Cohort_Group	Sphericity Assumed	1.865	1	1.865	.651	.420	.000
	Greenhouse-Geisser	1.865	1.000	1.865	.651	.420	.000
	Huynh-Feldt	1.865	1.000	1.865	.651	.420	.000
	Lower-bound	1.865	1.000	1.865	.651	.420	.000
BMI * IMD_Quintile	Sphericity Assumed	1.127	1	1.127	.393	.531	.000
	Greenhouse-Geisser	1.127	1.000	1.127	.393	.531	.000
	Huynh-Feldt	1.127	1.000	1.127	.393	.531	.000
	Lower-bound	1.127	1.000	1.127	.393	.531	.000
BMI * Local_Authority	Sphericity Assumed	4.217	1	4.217	1.471	.225	.000
	Greenhouse-Geisser	4.217	1.000	4.217	1.471	.225	.000
	Huynh-Feldt	4.217	1.000	4.217	1.471	.225	.000

	Lower-bound	4.217	1.000	4.217	1.471	.225	.000
Error(BMI)	Sphericity Assumed	19210.503	6703	2.866			
	Greenhouse-Geisser	19210.503	6703.000	2.866			
	Huynh-Feldt	19210.503	6703.000	2.866			
	Lower-bound	19210.503	6703.000	2.866			

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	BMI	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
BMI	Level 2 vs. Level 1	462.176	1	462.176	80.632	<.001	.012
BMI * Age_at_ref2	Level 2 vs. Level 1	291.068	1	291.068	50.780	<.001	.008
BMI * Gender2	Level 2 vs. Level 1	60.332	1	60.332	10.526	.001	.002
BMI * Cohort_Group	Level 2 vs. Level 1	3.730	1	3.730	.651	.420	.000
BMI * IMD_Quintile	Level 2 vs. Level 1	2.253	1	2.253	.393	.531	.000
BMI * Local_Authority	Level 2 vs. Level 1	8.433	1	8.433	1.471	.225	.000
Error(BMI)	Level 2 vs. Level 1	38421.005	6703	5.732			

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	210323.271	1	210323.271	5625.795	.000	.456
Age_at_ref2	5242.595	1	5242.595	140.231	<.001	.020
Gender2	149.199	1	149.199	3.991	.046	.001
Cohort_Group	141.409	1	141.409	3.782	.052	.001
IMD_Quintile	2533.144	1	2533.144	67.757	<.001	.010
Local_Authority	332.592	1	332.592	8.896	.003	.001
Error	250595.152	6703	37.386			

Estimated Marginal Means

BMI

Estimates

Measure: MEASURE_1

BMI	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	31.243 ^a	.077	31.092	31.395
2	30.697 ^a	.075	30.550	30.844

a. Covariates appearing in the model are evaluated at the following values: Age_at_ref2 = 59.7919, Gender2 = 1.6271, Cohort_Group = 1.4326, IMD_Quintile = 3.1541, Local_Authority = 10.31465.

Pairwise Comparisons

Measure: MEASURE_1

(I) BMI	(J) BMI	Mean Difference	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
		(I-J)			Lower Bound	Upper Bound
1	2	.546 [*]	.029	<.001	.489	.603
2	1	-.546 [*]	.029	<.001	-.603	-.489

Based on estimated marginal means
*. The mean difference is significant at the .05 level.
b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.049	349.036 ^a	1.000	6703.000	<.001	.049
Wilks' lambda	.951	349.036 ^a	1.000	6703.000	<.001	.049
Hotelling's trace	.052	349.036 ^a	1.000	6703.000	<.001	.049
Roy's largest root	.052	349.036 ^a	1.000	6703.000	<.001	.049

Each F tests the multivariate effect of BMI. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.
a. Exact statistic

