

Answers to additional health exercises

Chapter 18 One-way ANOVA

Conduct a one-way ANOVA with post hoc tests (if appropriate) to compare the mean sleepiness ratings (Sleepiness and Associated Sensations Scale total score : *totSAS*) for the three age groups defined by the variable *agegp3* (<=37, 38-50, 51+).

Descriptives

sleepy & assoc sensations scale

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
					Lower Bound	Upper Bound			
<= 37	79	27.77	10.303	1.159	25.46	30.08	8	50	
38 - 50	79	26.08	11.180	1.258	23.57	28.58	5	45	
51+	72	25.14	9.715	1.145	22.86	27.42	8	44	
Total	230	26.37	10.449	.689	25.01	27.72	5	50	
Model									
Fixed Effects			10.438	.688	25.01	27.72			
Random Effects				.768	23.06	29.67			.348

Test of Homogeneity of Variances

sleepy & assoc sensations scale

Levene Statistic	df1	df2	Sig.
1.633	2	227	.198

ANOVA

sleepy & assoc sensations scale

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	271.268	2	135.634	1.245	.290
Within Groups	24730.054	227	108.943		
Total	25001.322	229			

Robust Tests of Equality of Means

sleepy & assoc sensations scale

	Statistic ^a	df1	df2	Sig.
Welch	1.330	2	151.126	.268
Brown-Forsythe	1.252	2	225.739	.288

a. Asymptotically F distributed.

The results of the above analyses indicate that there is no significant difference among the three age groups [$F(2,227)=1.25$, $p=.29$].