The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
Fam_size_exp	4	LFS NFS SFS_AA SFS_BA
BMI_codeverbose	4	Normal weight Obese Overweight Underweight

Number of Observations Read	1035
Number of Observations Used	1033

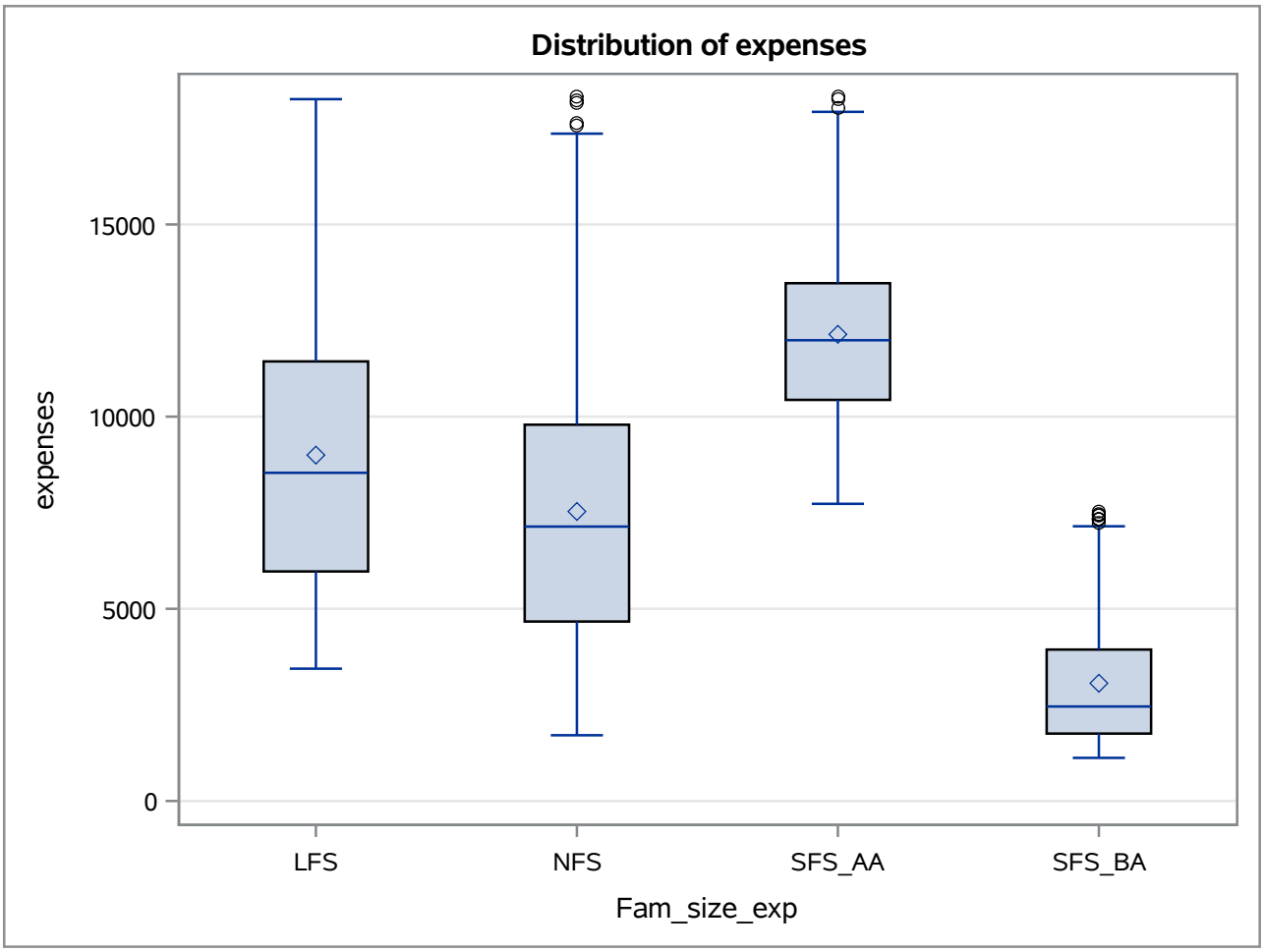
The ANOVA Procedure

Dependent Variable: expenses

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	9793841564	699560112	73.64	<.0001
Error	1018	9670472567	9499482		
Corrected Total	1032	19464314131			

R-Square	Coeff Var	Root MSE	expenses Mean
0.503169	40.49638	3082.123	7610.860

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Fam_size_exp	3	9731155455	3243718485	341.46	<.0001
BMI_codeverbose	3	9182423	3060808	0.32	0.8093
Fam_size_*BMI_codeve	8	53503686	6687961	0.70	0.6882


Distribution of expenses
expenses
15000
10000
5000
0
LFS
NFS
SFS_AA
SFS_BA
Fam_size_exp

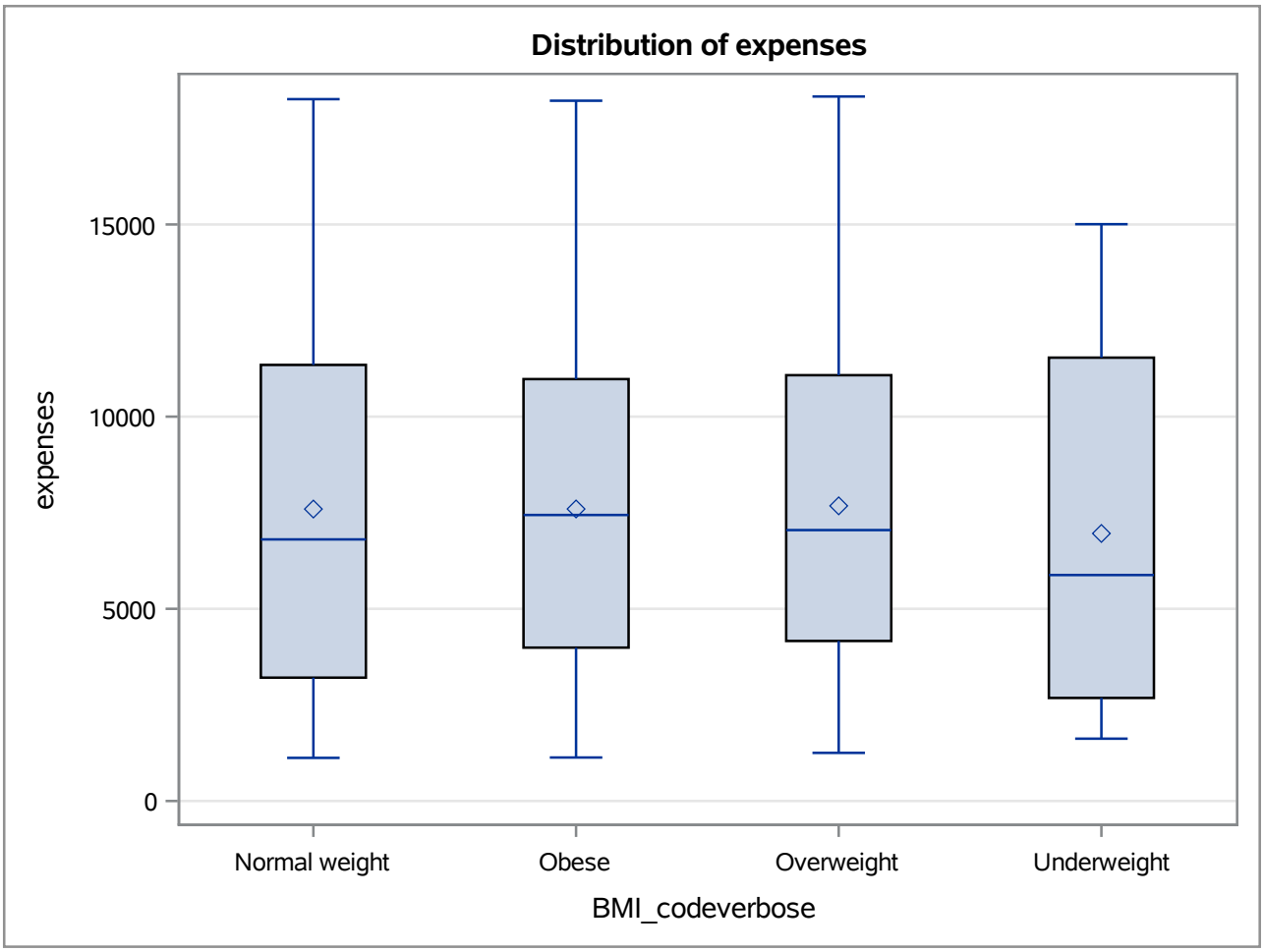
The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1018
Error Mean Square	9499482
Critical Value of Studentized Range	3.63911

Comparisons significant at the 0.05 level are indicated by *.**				
Fam_size_exp Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**		
SFS_AA - LFS	3142.0	2295.7	3988.2	***
SFS_AA - NFS	4609.1	3939.9	5278.4	***
SFS_AA - SFS_BA	9077.3	8333.6	9821.1	***
LFS - SFS_AA	-3142.0	-3988.2	-2295.7	***
LFS - NFS	1467.2	715.6	2218.8	***
LFS - SFS_BA	5935.4	5116.7	6754.0	***
NFS - SFS_AA	-4609.1	-5278.4	-3939.9	***
NFS - LFS	-1467.2	-2218.8	-715.6	***
NFS - SFS_BA	4468.2	3834.2	5102.2	***
SFS_BA - SFS_AA	-9077.3	-9821.1	-8333.6	***
SFS_BA - LFS	-5935.4	-6754.0	-5116.7	***
SFS_BA - NFS	-4468.2	-5102.2	-3834.2	***


Distribution of expenses
expenses
15000
10000
5000
0
Normal weight
Obese
Overweight
Underweight
BMI_codeverbose

The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1018
Error Mean Square	9499482
Critical Value of Studentized Range	3.63911

Comparisons significant at the 0.05 level are indicated by *.**				
BMI_codeverbose Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**		
Overweight - Obese	80.7	-487.0	648.5	
Overweight - Normal weight	83.1	-656.7	822.8	
Overweight - Underweight	718.4	-1204.2	2640.9	
Obese - Overweight	-80.7	-648.5	487.0	
Obese - Normal weight	2.3	-680.6	685.2	
Obese - Underweight	637.6	-1263.8	2539.0	
Normal weight - Overweight	-83.1	-822.8	656.7	
Normal weight - Obese	-2.3	-685.2	680.6	
Normal weight - Underweight	635.3	-1324.3	2594.9	
Underweight - Overweight	-718.4	-2640.9	1204.2	
Underweight - Obese	-637.6	-2539.0	1263.8	
Underweight - Normal weight	-635.3	-2594.9	1324.3	

The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
Fam_size_exp	4	LFS NFS SFS_AA SFS_BA
region	4	northeast northwest southeast southwest

Number of Observations Read	1035
Number of Observations Used	1033

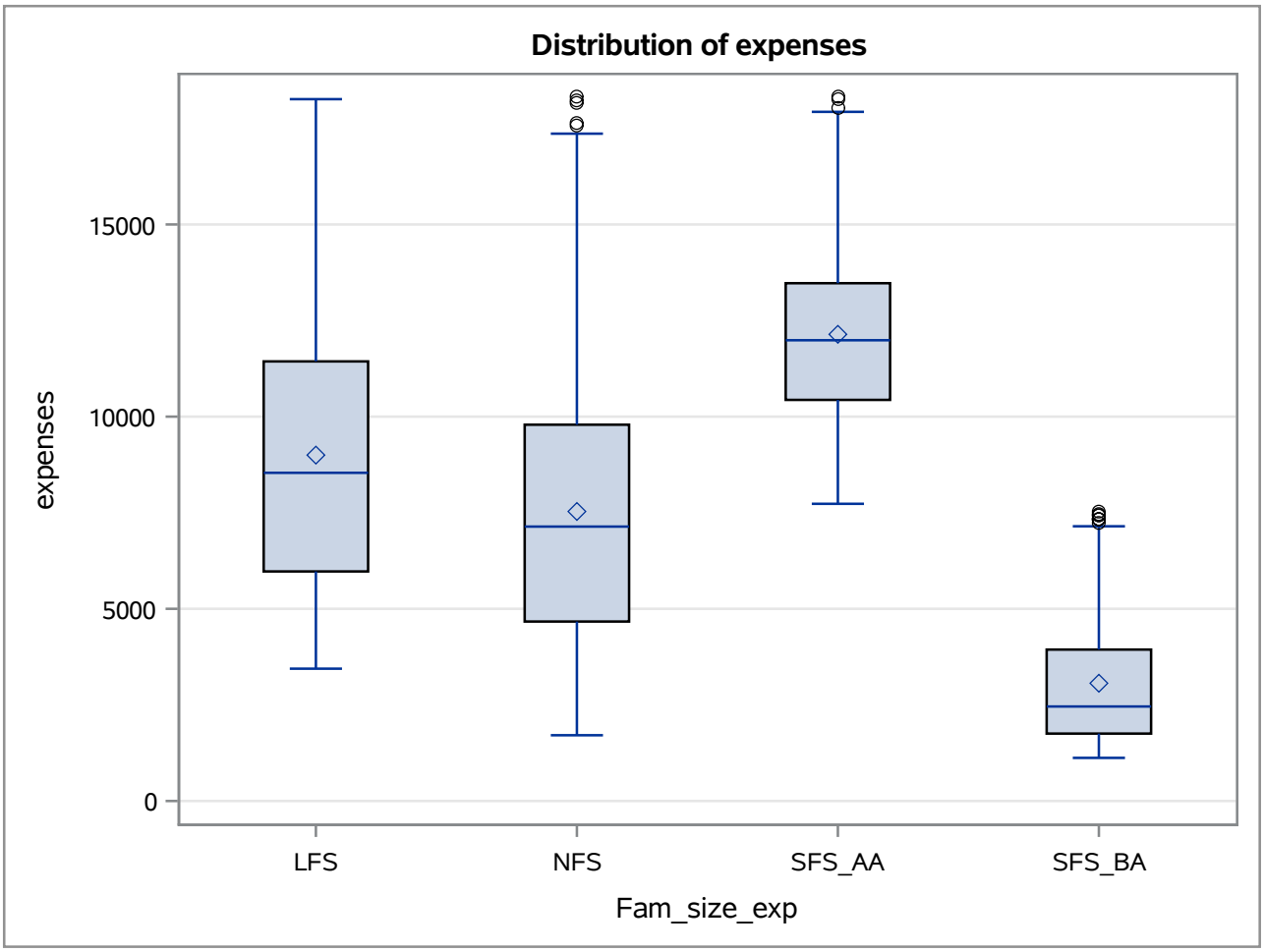
The ANOVA Procedure

Dependent Variable: expenses

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	15	10048998375	669933225	72.36	<.0001
Error	1017	9415315756	9257931		
Corrected Total	1032	19464314131			

R-Square	Coeff Var	Root MSE	expenses Mean
0.516278	39.97820	3042.685	7610.860

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Fam_size_exp	3	9731155455	3243718485	350.37	<.0001
region	3	146230375	48743458	5.27	0.0013
Fam_size_exp*region	9	171612545	19068061	2.06	0.0305


Distribution of expenses
expenses
15000
10000
5000
0
LFS
NFS
SFS_AA
SFS_BA
Fam_size_exp

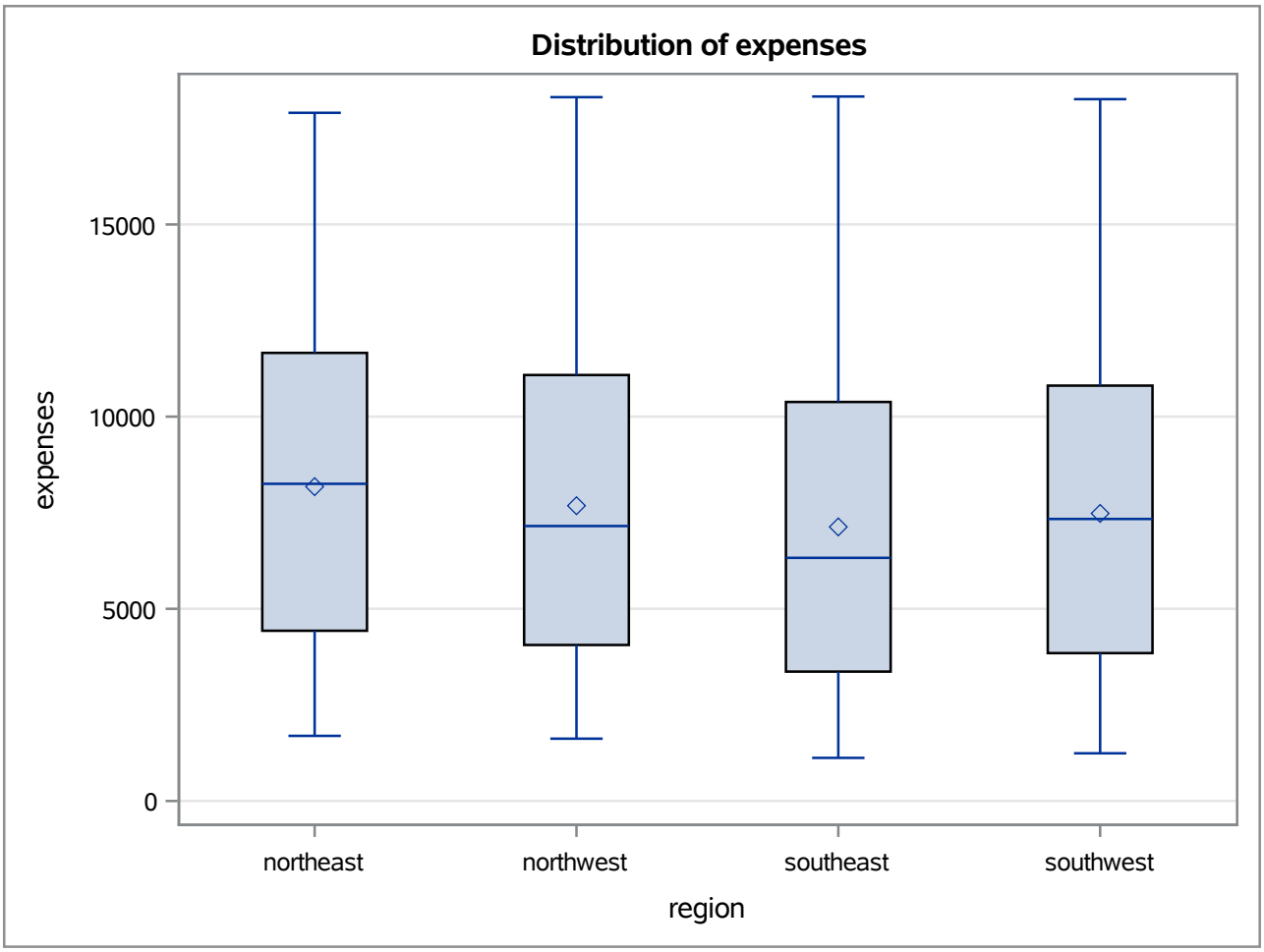
The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1017
Error Mean Square	9257931
Critical Value of Studentized Range	3.63911

Comparisons significant at the 0.05 level are indicated by *.**				
Fam_size_exp Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**		
SFS_AA - LFS	3142.0	2306.6	3977.4	***
SFS_AA - NFS	4609.1	3948.5	5269.8	***
SFS_AA - SFS_BA	9077.3	8343.1	9811.6	***
LFS - SFS_AA	-3142.0	-3977.4	-2306.6	***
LFS - NFS	1467.2	725.2	2209.2	***
LFS - SFS_BA	5935.4	5127.2	6743.5	***
NFS - SFS_AA	-4609.1	-5269.8	-3948.5	***
NFS - LFS	-1467.2	-2209.2	-725.2	***
NFS - SFS_BA	4468.2	3842.3	5094.1	***
SFS_BA - SFS_AA	-9077.3	-9811.6	-8343.1	***
SFS_BA - LFS	-5935.4	-6743.5	-5127.2	***
SFS_BA - NFS	-4468.2	-5094.1	-3842.3	***


Distribution of expenses
15000
10000
5000
0
expenses
northeast
northwest
southeast
southwest
region

The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1017
Error Mean Square	9257931
Critical Value of Studentized Range	3.63911

Comparisons significant at the 0.05 level are indicated by *.**

region Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
northeast - northwest	495.5	-199.4	1190.4	
northeast - southwest	696.2	3.9	1388.5	***
northeast - southeast	1047.4	354.5	1740.4	***
northwest - northeast	-495.5	-1190.4	199.4	
northwest - southwest	200.7	-484.7	886.1	
northwest - southeast	551.9	-134.2	1237.9	
southwest - northeast	-696.2	-1388.5	-3.9	***
southwest - northwest	-200.7	-886.1	484.7	
southwest - southeast	351.2	-332.2	1034.7	
southeast - northeast	-1047.4	-1740.4	-354.5	***
southeast - northwest	-551.9	-1237.9	134.2	
southeast - southwest	-351.2	-1034.7	332.2	

The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
Fam_size_exp	4	LFS NFS SFS_AA SFS_BA
sex	2	fema male

Number of Observations Read	1035
Number of Observations Used	1033

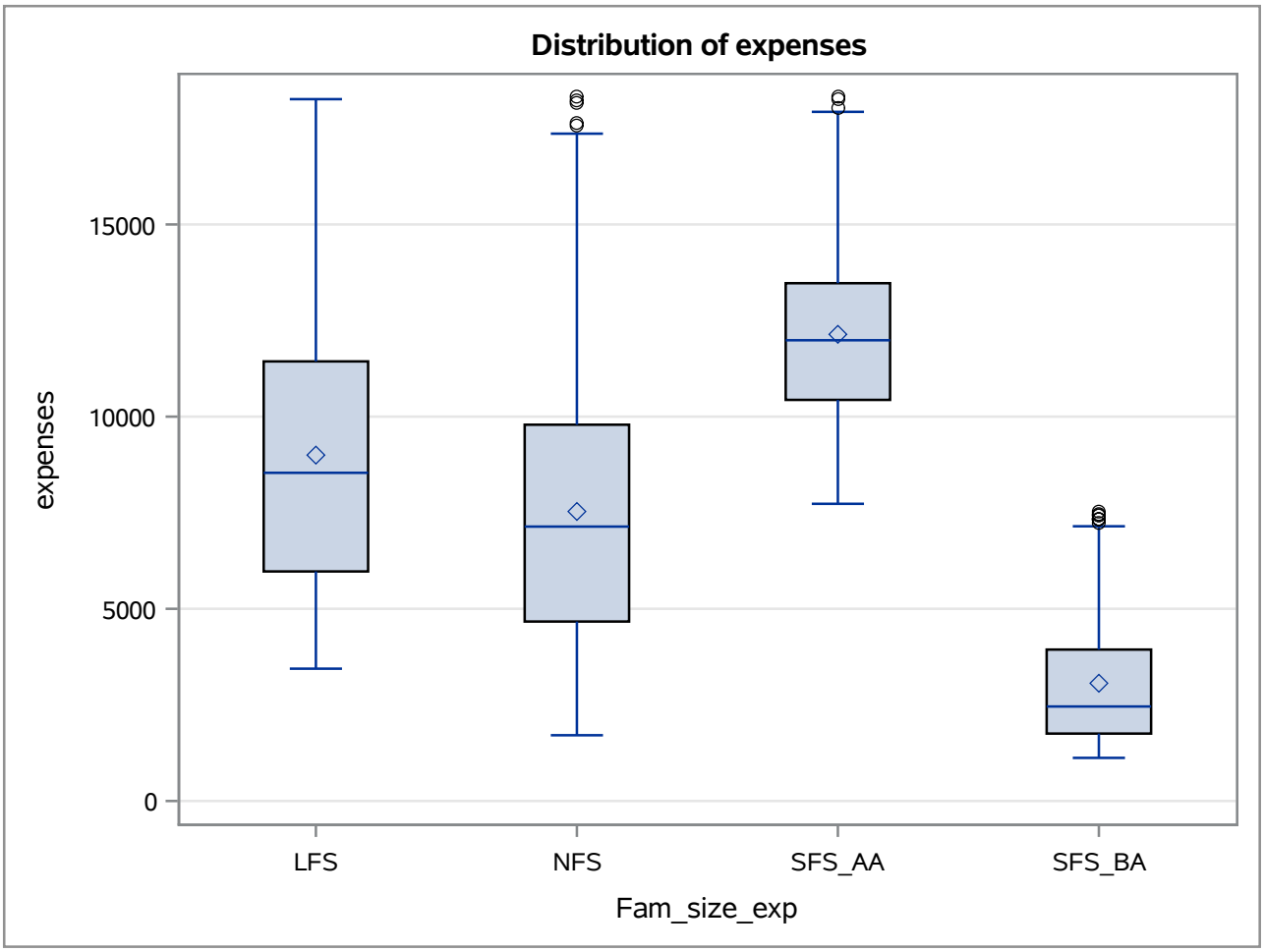
The ANOVA Procedure

Dependent Variable: expenses

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	9850702429	1407243204	150.04	<.0001
Error	1025	9613611701	9379133		
Corrected Total	1032	19464314131			

R-Square	Coeff Var	Root MSE	expenses Mean
0.506090	40.23904	3062.537	7610.860

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Fam_size_exp	3	9731155455	3243718485	345.84	<.0001
sex	1	95821641	95821641	10.22	0.0014
Fam_size_exp*sex	3	23725333	7908444	0.84	0.4703


Distribution of expenses
expenses
15000
10000
5000
0
LFS
NFS
SFS_AA
SFS_BA
Fam_size_exp

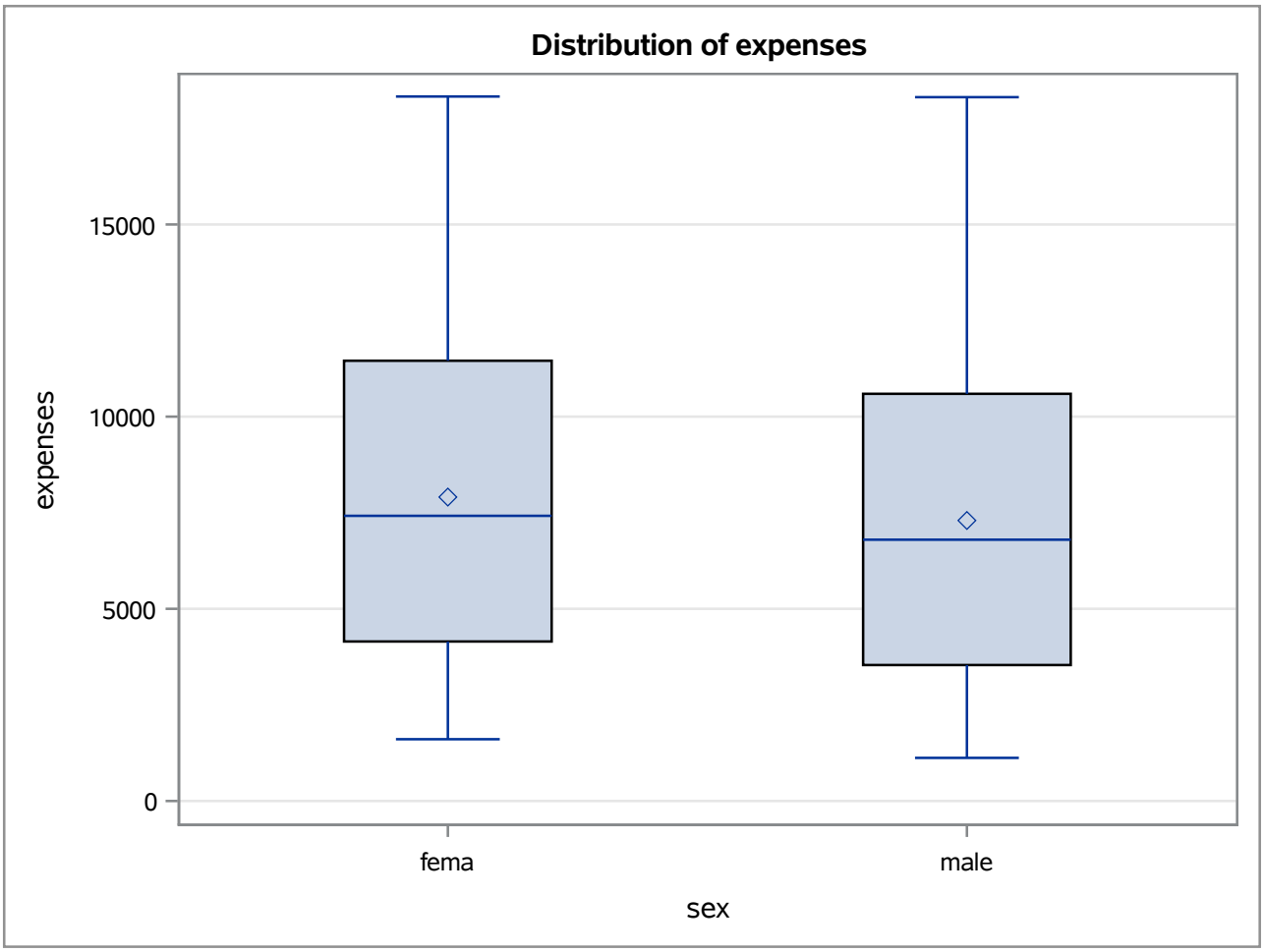
The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1025
Error Mean Square	9379133
Critical Value of Studentized Range	3.63907

Comparisons significant at the 0.05 level are indicated by *.**				
Fam_size_exp Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**		
SFS_AA - LFS	3142.0	2301.1	3982.8	***
SFS_AA - NFS	4609.1	3944.2	5274.1	***
SFS_AA - SFS_BA	9077.3	8338.3	9816.3	***
LFS - SFS_AA	-3142.0	-3982.8	-2301.1	***
LFS - NFS	1467.2	720.3	2214.0	***
LFS - SFS_BA	5935.4	5121.9	6748.8	***
NFS - SFS_AA	-4609.1	-5274.1	-3944.2	***
NFS - LFS	-1467.2	-2214.0	-720.3	***
NFS - SFS_BA	4468.2	3838.2	5098.2	***
SFS_BA - SFS_AA	-9077.3	-9816.3	-8338.3	***
SFS_BA - LFS	-5935.4	-6748.8	-5121.9	***
SFS_BA - NFS	-4468.2	-5098.2	-3838.2	***


Distribution of expenses
15000
10000
5000
0
expenses
fema
male
sex

The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for expenses

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	1025
Error Mean Square	9379133
Critical Value of Studentized Range	2.77508

Comparisons significant at the 0.05 level are indicated by *.**				
sex Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**		
fema - male	609.4	235.3	983.5	***
male - fema	-609.4	-983.5	-235.3	***