(R)
Statistics/Data Analysis

. pwmean WiringPacking, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over : **Actor**

	Number of Comparisons
Actor	**3**

WiringPack~g	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	**-.5625**	**.1813677**	**-3.10**	**0.002**	**-.9197988**	**-.2052012**
3 vs 1	**-.725**	**.1813677**	**-4.00**	**0.000**	**-1.10112**	**-.3488801**
3 vs 2	**-.1625**	**.1813677**	**-0.90**	**0.371**	**-.5197988**	**.1947988**

. pwmean WiringCupurity, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over : **Actor**

	Number of Comparisons
Actor	**3**

WiringCupu~y	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	**.6375**	**.2117307**	**3.01**	**0.004**	**.1984134**	**1.076587**
3 vs 1	**.1875**	**.2117307**	**0.89**	**0.377**	**-.2296146**	**.6046146**
3 vs 2	**-.45**	**.2117307**	**-2.13**	**0.035**	**-.8671146**	**-.0328854**

. pwmean WiringInsulationresist, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over : **Actor**

	Number of Comparisons
Actor	**3**

WiringInsu~t	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	**.325**	**.1811458**	**1.79**	**0.074**	**-.0318617**	**.6818617**
3 vs 1	**-.3125**	**.1811458**	**-1.73**	**0.086**	**-.6693617**	**.0443617**
3 vs 2	**-.6375**	**.1811458**	**-3.52**	**0.001**	**-1.01316**	**-.2618402**

```
. pwmean Wiringquanticu, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
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	Number of Comparisons
Actor	3

Wiringquan~u	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.8	.2178875	3.67	0.000	.3481456	1.251854
3 vs 1	.475	.2178875	2.18	0.030	.0457565	.9042435
3 vs 2	-.325	.2178875	-1.49	0.137	-.7542435	.1042435

```
. pwmean Wiringprice, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Wiringprice	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-1.2375	.1785689	-6.93	0.000	-1.589285	-.8857149
3 vs 1	.4	.1785689	2.24	0.026	.0482149	.7517851
3 vs 2	1.6375	.1785689	9.17	0.000	1.267184	2.007816

```
. pwmean Pipduration, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Pipduration	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.2625	.1838086	-1.43	0.155	-.6246074	.0996074
3 vs 1	-.7625	.1838086	-4.15	0.000	-1.143682	-.3813182
3 vs 2	-.5	.1838086	-2.72	0.007	-.8621074	-.1378926

```
. pwmean Pipresistpress, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Pipresistp~s	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	0	.1544607	0.00	.	-.3042914	.3042914
3 vs 1	.0375	.1544607	0.24	0.821	-.2828203	.3578203
3 vs 2	.0375	.1544607	0.24	0.808	-.2667914	.3417914

```
. pwmean Pipthick, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Pipthick	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.5375	.1949048	2.76	0.006	.1535329	.9214671
3 vs 1	-.075	.1949048	-0.38	0.701	-.4589671	.3089671
3 vs 2	-.6125	.1949048	-3.14	0.003	-1.016693	-.208307

```
. pwmean Pipvariefitt, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Pipvariefitt	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.2	.1616967	1.24	0.217	-.1185464	.5185464
3 vs 1	.475	.1616967	2.94	0.005	.1396738	.8103262
3 vs 2	.275	.1616967	1.70	0.090	-.0435464	.5935464

```
. pwmean Pipprice, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Pipprice	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.475	.1995512	-2.38	0.018	-.8681206	-.0818794
3 vs 1	.3	.1995512	1.50	0.134	-.0931206	.6931206
3 vs 2	.775	.1995512	3.88	0.000	.3611713	1.188829

```
. pwmean Floorelegan, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Floorelegan	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.15	.2239338	-0.67	0.532	-.6143934	.3143934
3 vs 1	-.0875	.2239338	-0.39	0.696	-.528655	.353655
3 vs 2	.0625	.2239338	0.28	0.780	-.378655	.503655

```
. pwmean Floordesign, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Floordesign	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.1375	.1545973	0.89	0.406	-.1831034	.4581034
3 vs 1	.0625	.1545973	0.40	0.686	-.2420603	.3670603
3 vs 2	-.075	.1545973	-0.49	0.628	-.3795603	.2295603

```
. pwmean Floorstyle, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Floorstyle	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.1	.1986472	0.50	0.615	-.2913397	.4913397
3 vs 1	-.2875	.1986472	-1.45	0.149	-.6788397	.1038397
3 vs 2	-.3875	.1986472	-1.95	0.066	-.799454	.024454

```
. pwmean Flooreasyclean, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Flooreasyc~n	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.2625	.2123029	-1.24	0.247	-.7027732	.1777732
3 vs 1	-.0125	.2123029	-0.06	0.953	-.4307418	.4057418
3 vs 2	.25	.2123029	1.18	0.240	-.1682418	.6682418

```
. pwmean Floorprice, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Floorprice	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.175	.215869	0.81	0.418	-.2502671	.6002671
3 vs 1	.325	.215869	1.51	0.157	-.1226685	.7726685
3 vs 2	.15	.215869	0.69	0.488	-.2752671	.5752671

```
. pwmean Luminlastend, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Luminlastend	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.1375	.2257284	-0.61	0.570	-.605615	.330615
3 vs 1	-.025	.2257284	-0.11	0.912	-.4696904	.4196904
3 vs 2	.1125	.2257284	0.50	0.619	-.3321904	.5571904

```
. pwmean Lumindesign, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Lumindesign	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	.0875	.1911787	0.46	0.648	-.2891267	.4641267
3 vs 1	-.7	.1911787	-3.66	0.000	-1.076627	-.3233733
3 vs 2	-.7875	.1911787	-4.12	0.000	-1.183966	-.391034

```
. pwmean Luminbrill, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	3

Luminbrill	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	-.375	.1900339	-1.97	0.062	-.7690917	.0190917
3 vs 1	-.175	.1900339	-0.92	0.358	-.5493713	.1993713
3 vs 2	.2	.1900339	1.05	0.294	-.1743713	.5743713

```
. pwmean Luminenergsav, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	**3**

Luminenerg~v	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	**.2625**	**.185746**	**1.41**	**0.159**	**-.1034241**	**.6284241**
3 vs 1	**.3125**	**.185746**	**1.68**	**0.113**	**-.0726996**	**.6976996**
3 vs 2	**.05**	**.185746**	**0.27**	**0.788**	**-.3159241**	**.4159241**

```
. pwmean Luminprice, over(Actor) mcompare(duncan) effects

Pairwise comparisons of means with equal variances

over          : Actor
```

	Number of Comparisons
Actor	**3**

Luminprice	Contrast	Std. Err.	Duncan t	Duncan P>|t|	Duncan [95% Conf.	Interval]
Actor						
2 vs 1	**.0875**	**.2112163**	**0.41**	**0.679**	**-.3286013**	**.5036013**
3 vs 1	**.525**	**.2112163**	**2.49**	**0.018**	**.0869801**	**.9630199**
3 vs 2	**.4375**	**.2112163**	**2.07**	**0.039**	**.0213987**	**.8536013**

```
. discrim lda WiringPacking WiringCupurity WiringInsulationresist Wiringquanticu, group(Actor
> )

Linear discriminant analysis
Resubstitution classification summary
```

Key
Number Percent

True Actor	Classified 1	2	3	Total
1	**38**	**20**	**22**	**80**
	47.50	**25.00**	**27.50**	**100.00**
2	**6**	**59**	**15**	**80**
	7.50	**73.75**	**18.75**	**100.00**
3	**11**	**22**	**47**	**80**
	13.75	**27.50**	**58.75**	**100.00**
Total	**55**	**101**	**84**	**240**
	22.92	**42.08**	**35.00**	**100.00**

Priors	**0.3333**	**0.3333**	**0.3333**

```
. estat grdistances, mahalanobis(f p)

Mahalanobis squared distances between groups
```

Key
Mahalanobis squared distance F with 4 and 234 df p-value

Actor	Actor 1	2	3
1	**0**		
	0		
	1		
2	**1.390932**	**0**	
	13.73326	**0**	
	4.48e-10	**1**	
3	**.634463**	**1.993371**	**0**
	6.264318	**19.68139**	**0**
	.0000835	**5.59e-14**	**1**

```
. discrim lda Pipduration Pipresistpress Pipthick Pipvariefitt, group(Actor)

Linear discriminant analysis
Resubstitution classification summary
```

Key
Number Percent

True Actor	Classified 1	2	3	Total
1	**35**	**32**	**13**	**80**
	43.75	**40.00**	**16.25**	**100.00**
2	**19**	**45**	**16**	**80**
	23.75	**56.25**	**20.00**	**100.00**
3	**21**	**24**	**35**	**80**
	26.25	**30.00**	**43.75**	**100.00**
Total	**75**	**101**	**64**	**240**
	31.25	**42.08**	**26.67**	**100.00**
Priors	**0.3333**	**0.3333**	**0.3333**	

```
. estat grdistances, mahalanobis(f p)

Mahalanobis squared distances between groups
```

Key
Mahalanobis squared distance F with 4 and 234 df p-value

Actor	Actor 1	2	3
1	**0** **0** **1**		
2	**.3053212** **3.014564** **.0188394**	**0** **0** **1**	
3	**.5876068** **5.801687** **.0001812**	**.7092671** **7.00289** **.0000243**	**0** **0** **1**

```
. discrim lda Floorelegan Floordesign Floorstyle Flooreasyclean, group(Actor)

Linear discriminant analysis
Resubstitution classification summary
```

Key
Number Percent

True Actor	Classified 1	2	3	Total
1	**30** **37.50**	**25** **31.25**	**25** **31.25**	**80** **100.00**
2	**23** **28.75**	**29** **36.25**	**28** **35.00**	**80** **100.00**
3	**21** **26.25**	**25** **31.25**	**34** **42.50**	**80** **100.00**
Total	**74** **30.83**	**79** **32.92**	**87** **36.25**	**240** **100.00**
Priors	**0.3333**	**0.3333**	**0.3333**	

```
. estat grdistances, mahalanobis(f p)

Mahalanobis squared distances between groups
```

Key
Mahalanobis squared distance F with 4 and 234 df p-value

Actor	Actor 1	2	3
1	**0** **0** **1**		
2	**.0728238** **.7190193** **.5796873**	**0** **0** **1**	

3	.0879182	.1075002	0
	.8680529	1.061394	0
	.4837744	.3763552	1

```
. discrim lda Luminlastend Lumindesign Luminbrill Luminenergsav, group(Actor)
```

Linear discriminant analysis
Resubstitution classification summary

Key
Number Percent

True Actor	Classified 1	2	3	Total
1	30	25	25	80
	37.50	31.25	31.25	100.00
2	15	41	24	80
	18.75	51.25	30.00	100.00
3	17	15	48	80
	21.25	18.75	60.00	100.00
Total	62	81	97	240
	25.83	33.75	40.42	100.00
Priors	0.3333	0.3333	0.3333	

```
. estat grdistances, mahalanobis(f p)
```

Mahalanobis squared distances between groups

Key
Mahalanobis squared distance F with 4 and 234 df p-value

Actor	Actor 1	2	3
1	0		
	0		
	1		
2	.1643508	0	
	1.622704	0	
	.1692765	1	
3	.4949234	.5069109	0
	4.886586	5.004943	0
	.0008402	.000689	1

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