MANOVA/MANCOVA

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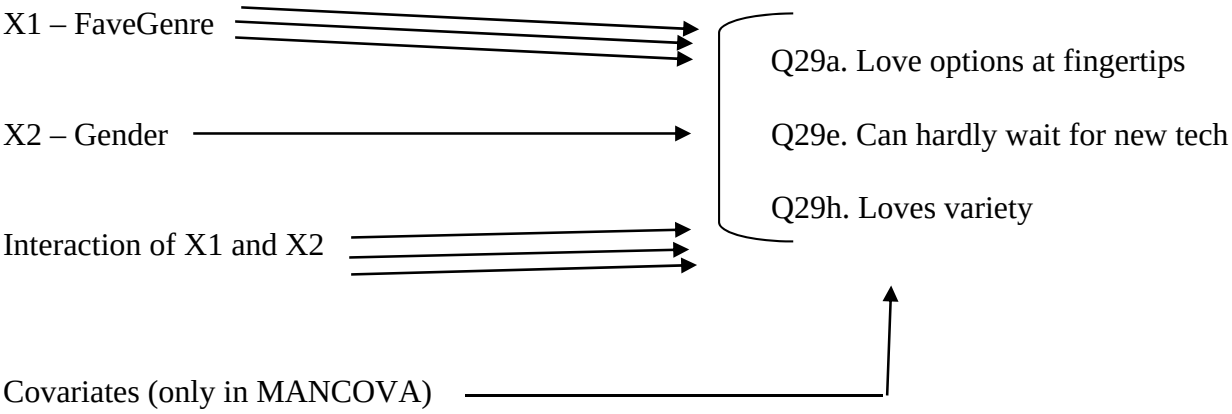
I. Model

From Film and TV data set (Neuendorf et al.)



Independent Variables:

FaveGenre – Nominal (4 Categories) coded from Q5a (preferred film genre to see at home)

1 = Action/Scifi, 2 = Comedy, 3 = Romance/Drama, 4 = Other

Gender – Nominal (2 Categories)

1 = Male, 2 = Female

Dependent Variables:

Q29a. I love the options at my fingertips today, watching videos on my phone, texting, streaming films.

Q29e. I can hardly wait to see what technology comes next.

Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.

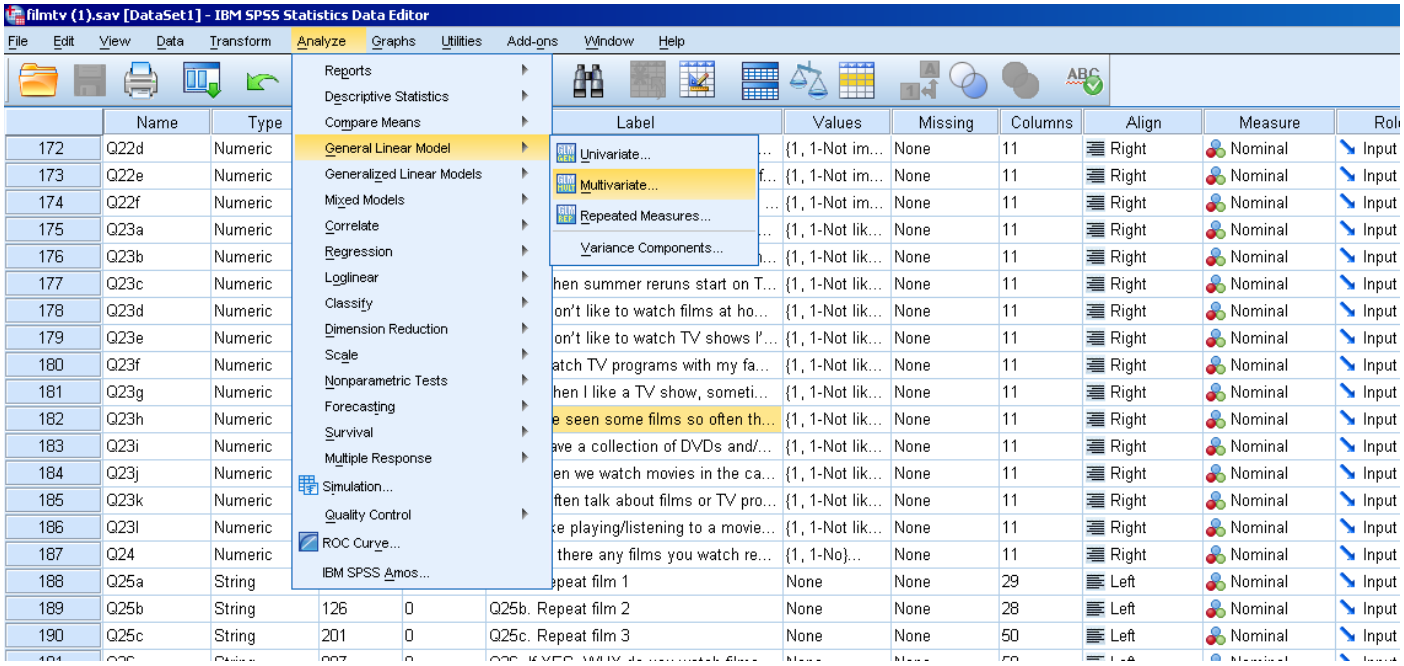
Covariates (Only in MANCOVA):

Q29o. I generally think of myself as a happy person.

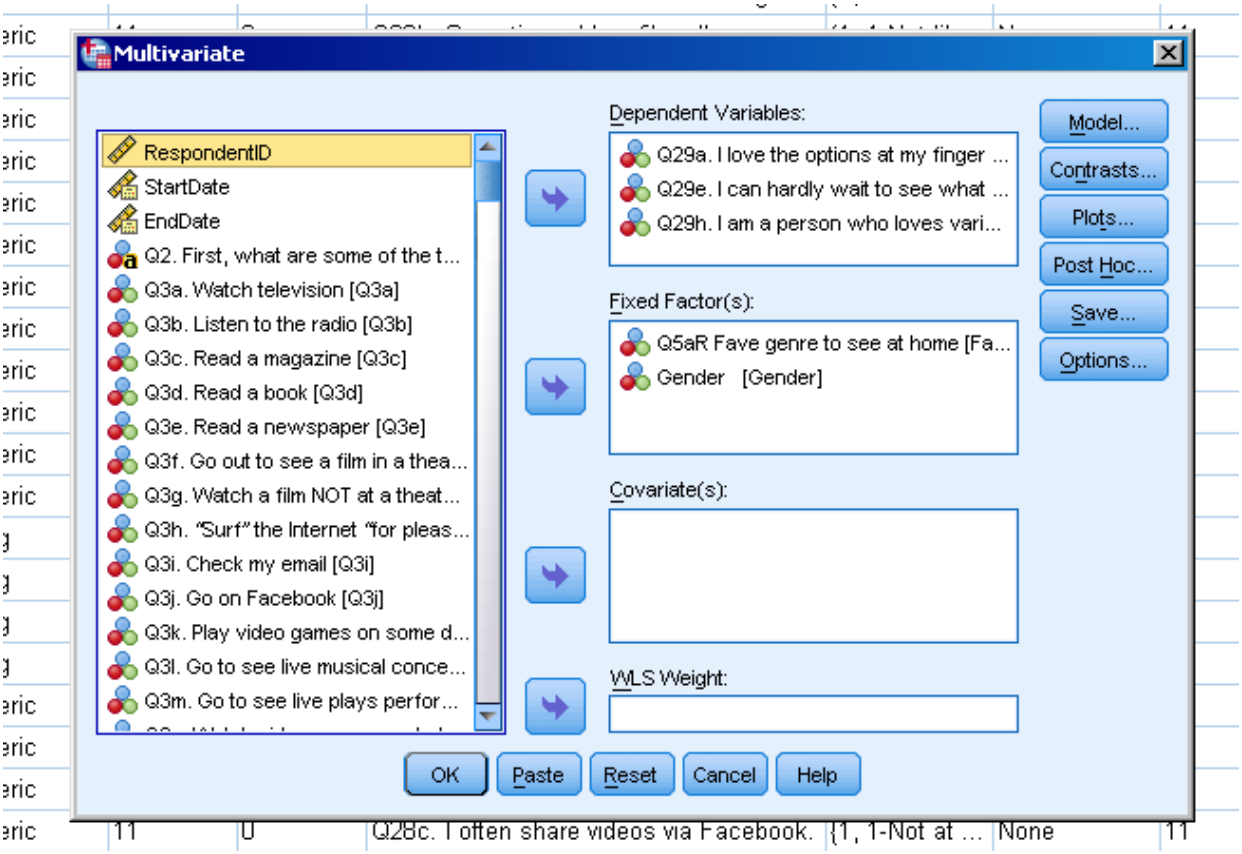
Q29t. I see myself as a citizen of the world.

II. Running SPSS

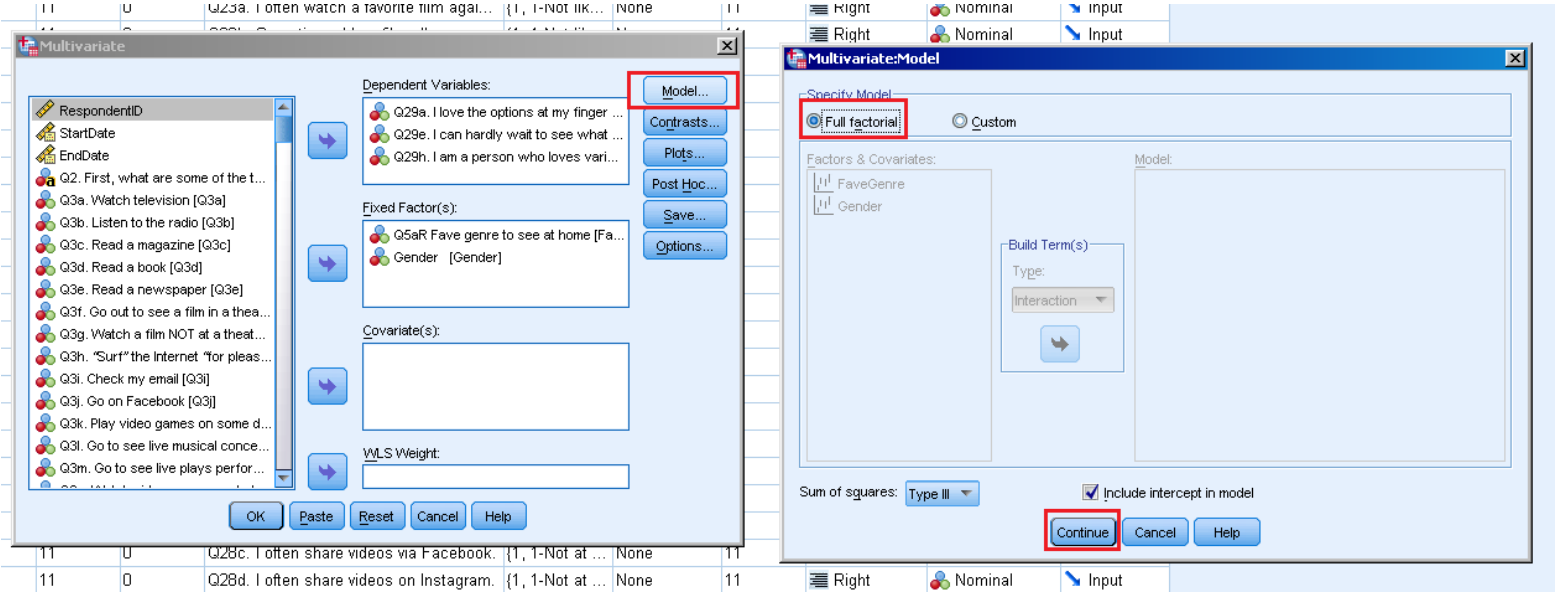
Analyze > General Linear Model > Multivariate



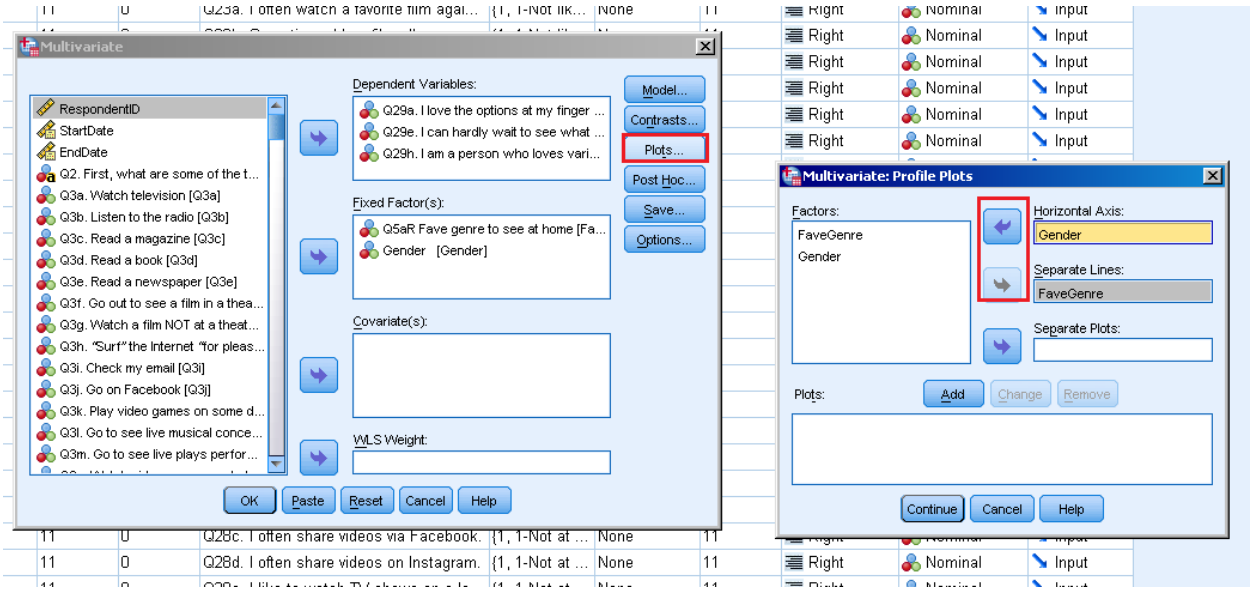
Add dependent and independent variables by clicking arrow (from left box to right boxes)



Model > select Full Factorial > Continue

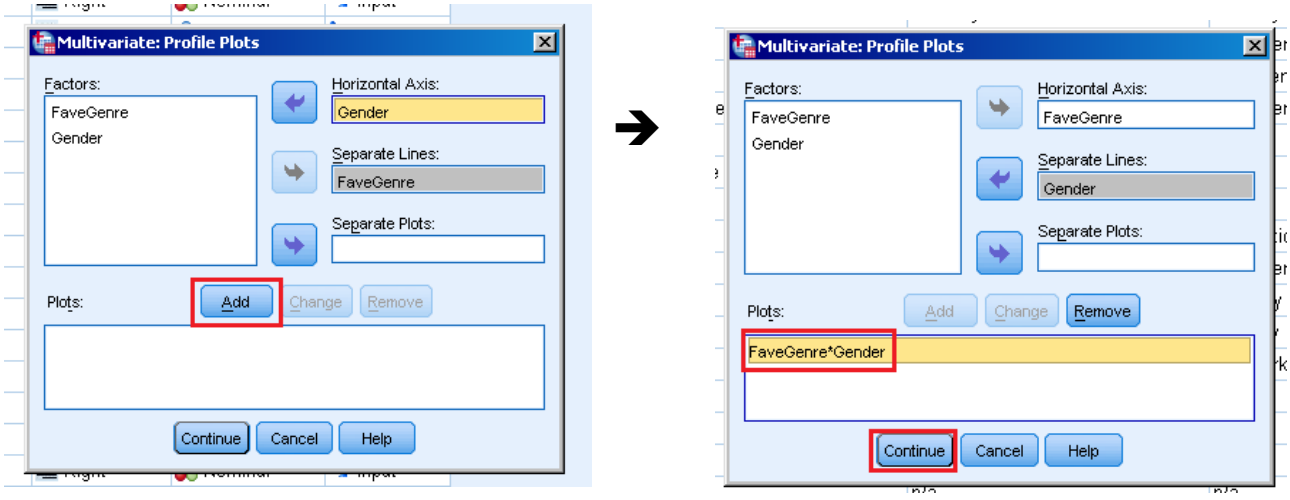


Plots > move IVs into right boxes using arrow keys
Horizontal Axis and Separate Lines

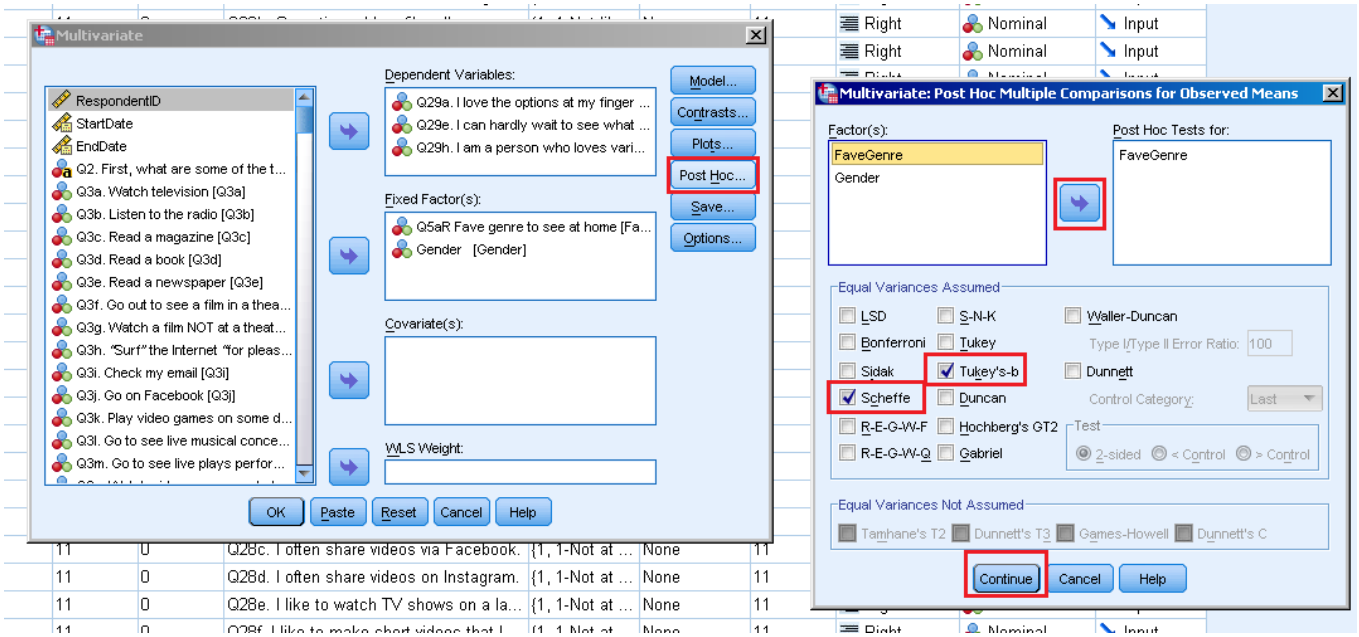


Once IVs are in the boxes, click Add to create a graph showing the IVs interaction

Click on the interaction IVs to highlight and then click Continue

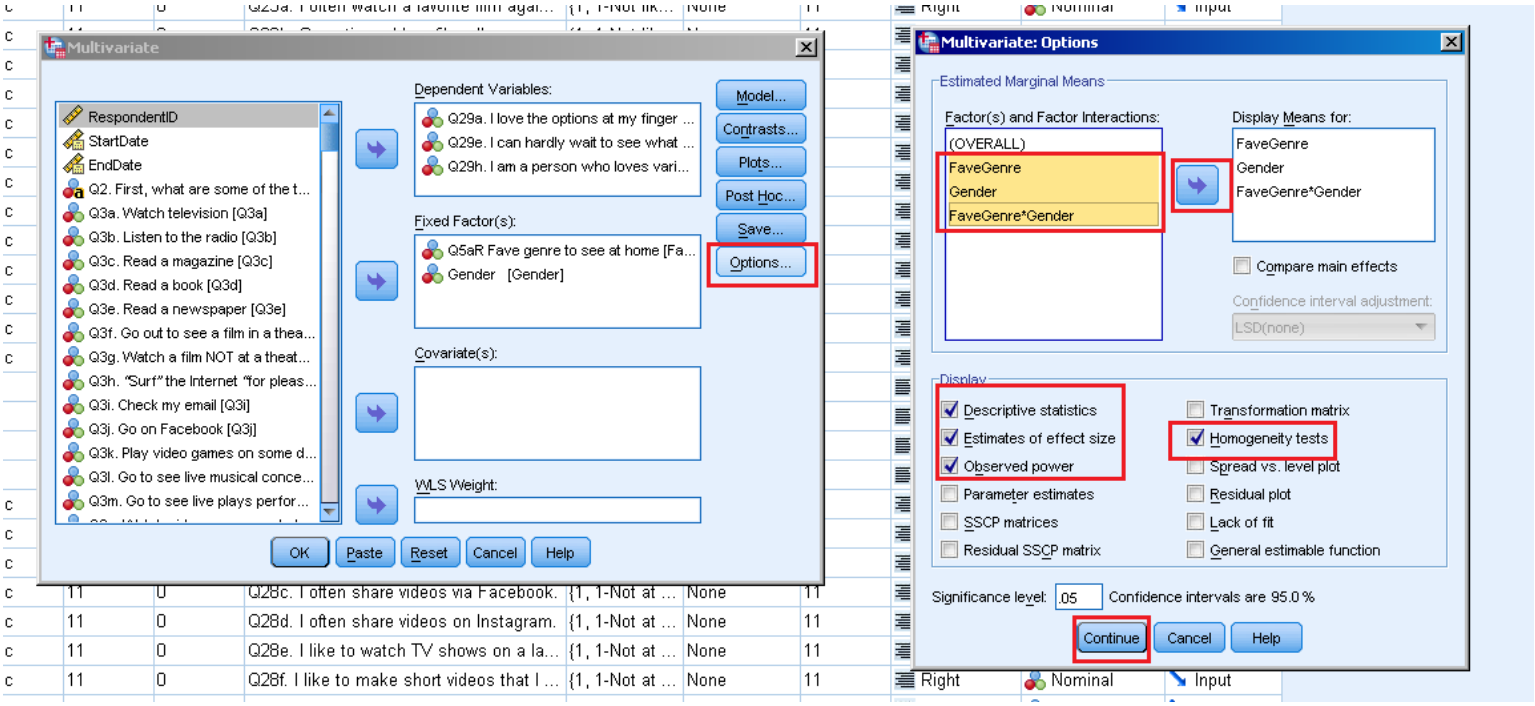


Click Post Hoc
Move IV to the right using arrow key
Select Scheffe and Tukey's-b
Continue



Click Options
Highlight all IVs and the Interaction in the left, click arrow to move to the right box

Select Descriptive Statistics, Estimates of effect size, Observed Power, and Homogeneity tests
Continue



CLICK OK TO RUN MANOVA! ☺

III. SPSS Output

```
CORRELATIONS
  /VARIABLES=Q29e Q29a Q29h
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		19-APR-2016 08:53:06
Comments		
Input	Data	C:\Users\2651491\Downloads\filmtv (1).sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	543
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Q29e Q29a Q29h /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.08

Correlations

		Q29e. I can hardly wait to see what technology comes next.	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.
Q29e. I can hardly wait to see what technology comes next.	Pearson Correlation	1	.429**	.251**
	Sig. (2-tailed)		.000	.000
	N	364	364	364
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Pearson Correlation	.429**	1	.230**
	Sig. (2-tailed)	.000		.000
	N	364	364	364
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Pearson Correlation	.251**	.230**	1
	Sig. (2-tailed)	.000	.000	
	N	364	364	364

**. Correlation is significant at the 0.01 level (2-tailed).

```
GLM Q29a Q29e Q29h BY FaveGenre Gender
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /POSTHOC=FaveGenre(BTUKEY SCHEFFE)
  /PLOT=PROFILE(Gender*FaveGenre)
  /EMMEANS=TABLES(FaveGenre)
  /EMMEANS=TABLES(Gender)
  /EMMEANS=TABLES(FaveGenre*Gender)
  /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /DESIGN= FaveGenre Gender FaveGenre*Gender.
```

General Linear Model

Notes

Output Created		19-APR-2016 08:53:40
Comments		
Input	Data	C:\Users\2651491\Downloads\filmtv (1).sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	543
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 Q29a Q29e Q29h BY FaveGenre Gender /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=FaveGenre(BTUKEY SCHEFFE) /PLOT=PROFILE(Gender*FaveGenre) /EMMEANS=TABLES(FaveGenre) /EMMEANS=TABLES(Gender) /EMMEANS=TABLES(FaveGenre*Gender) /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY /CRITERIA=ALPHA(.05) /DESIGN= FaveGenre Gender FaveGenre*Gender.
Resources	Processor Time	00:00:00.34

Elapsed Time	00:00:00.36

Between-Subjects Factors

		Value Label	N
Q5aR Fave genre to see at home	1.00	Action, adventure, scifi	106
	2.00	Comedy	97
	3.00	Romance, drama	73
	4.00	Other	79
Gender	1	1-Male	135
	2	2-Female	220

Descriptive Statistics

	Q5aR Fave genre to see at home	Gender	Mean	Std. Deviation	N
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	1-Male	4.83	1.966	58
		2-Female	5.25	1.578	48
		Total	5.02	1.805	106
	Comedy	1-Male	5.24	2.010	42
		2-Female	5.78	1.607	55
		Total	5.55	1.803	97
	Romance, drama	1-Male	4.10	1.969	10
		2-Female	4.81	1.983	63
		Total	4.71	1.982	73
	Other	1-Male	5.24	1.985	25
		2-Female	5.44	1.839	54
		Total	5.38	1.876	79
	Total	1-Male	4.98	1.987	135
		2-Female	5.30	1.799	220
		Total	5.18	1.876	355

Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.62	1.674	58
		2-Female	4.15	1.663	48
		Total	4.41	1.678	106
	Comedy	1-Male	4.81	1.627	42
		2-Female	4.42	1.950	55
		Total	4.59	1.819	97
	Romance, drama	1-Male	3.70	1.703	10
		2-Female	4.19	1.749	63
		Total	4.12	1.740	73
	Other	1-Male	5.12	1.740	25
		2-Female	4.31	1.979	54
		Total	4.57	1.933	79
	Total	1-Male	4.70	1.689	135
		2-Female	4.27	1.832	220
		Total	4.43	1.789	355
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.74	1.607	58
		2-Female	4.17	1.767	48
		Total	4.48	1.697	106
	Comedy	1-Male	3.90	1.665	42
		2-Female	4.58	1.560	55
		Total	4.29	1.633	97
	Romance, drama	1-Male	4.00	1.944	10
		2-Female	4.06	1.813	63
		Total	4.05	1.817	73
	Other	1-Male	4.20	1.756	25
		2-Female	3.52	1.950	54
		Total	3.73	1.906	79
	Total	1-Male	4.33	1.701	135
		2-Female	4.08	1.806	220
		Total	4.17	1.769	355

Box's Test of Equality of Covariance Matrices[a]

Box's M	31.007
F	.706
df1	42

df2	20006.754
Sig.	.924

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.[a]

a. Design: Intercept + FaveGenre + Gender + FaveGenre * Gender

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
Intercept	Pillai's Trace	.899	1023.127[b]	3.000	345.000
	Wilks' Lambda	.101	1023.127[b]	3.000	345.000
	Hotelling's Trace	8.897	1023.127[b]	3.000	345.000
	Roy's Largest Root	8.897	1023.127[b]	3.000	345.000
FaveGenre	Pillai's Trace	.051	1.998	9.000	1041.000
	Wilks' Lambda	.950	2.003	9.000	839.790
	Hotelling's Trace	.052	2.004	9.000	1031.000
	Roy's Largest Root	.037	4.334[c]	3.000	347.000
Gender	Pillai's Trace	.028	3.337[b]	3.000	345.000
	Wilks' Lambda	.972	3.337[b]	3.000	345.000
	Hotelling's Trace	.029	3.337[b]	3.000	345.000
	Roy's Largest Root	.029	3.337[b]	3.000	345.000
FaveGenre * Gender	Pillai's Trace	.032	1.265	9.000	1041.000
	Wilks' Lambda	.968	1.266	9.000	839.790
	Hotelling's Trace	.033	1.265	9.000	1031.000
	Roy's Largest Root	.025	2.894[c]	3.000	347.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Intercept	Pillai's Trace	.000	.899	3069.381	1.000
	Wilks' Lambda	.000	.899	3069.381	1.000
	Hotelling's Trace	.000	.899	3069.381	1.000

	Roy's Largest Root	.000	.899	3069.381	1.000
FaveGenre	Pillai's Trace	.037	.017	17.978	.859
	Wilks' Lambda	.036	.017	14.596	.760
	Hotelling's Trace	.036	.017	18.033	.860
	Roy's Largest Root	.005	.036	13.001	.867
Gender	Pillai's Trace	.020	.028	10.011	.756
	Wilks' Lambda	.020	.028	10.011	.756
	Hotelling's Trace	.020	.028	10.011	.756
	Roy's Largest Root	.020	.028	10.011	.756
FaveGenre * Gender	Pillai's Trace	.252	.011	11.384	.628
	Wilks' Lambda	.252	.011	9.229	.518
	Hotelling's Trace	.252	.011	11.385	.628
	Roy's Largest Root	.035	.024	8.683	.688

a. Design: Intercept + FaveGenre + Gender + FaveGenre * Gender

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = .05

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1.580	7	347	.140
Q29e. I can hardly wait to see what technology comes next.	1.235	7	347	.282
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	.973	7	347	.451

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a]

a. Design: Intercept + FaveGenre + Gender + FaveGenre * Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Corrected Model	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	51.678[a]	7	7.383	2.144	.039	.041	15.009	.812
	Q29e. I can hardly wait to see what technology comes next.	33.600[b]	7	4.800	1.515	.161	.030	10.603	.634
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	55.156[c]	7	7.879	2.599	.013	.050	18.193	.891
Intercept	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	6507.157	1	6507.157	1889.867	.000	.845	1889.867	1.000
	Q29e. I can hardly wait to see what technology comes next.	4902.461	1	4902.461	1547.074	.000	.817	1547.074	1.000

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	4325.629	1	4325.629	1426.778	.000	.804	1426.778	1.000
FaveGenre	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	32.398	3	10.799	3.136	.026	.026	9.409	.727
	Q29e. I can hardly wait to see what technology comes next.	16.414	3	5.471	1.727	.161	.015	5.180	.450
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	15.861	3	5.287	1.744	.158	.015	5.232	.454
Gender	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	13.891	1	13.891	4.034	.045	.011	4.034	.517
	Q29e. I can hardly wait to see what technology comes next.	5.480	1	5.480	1.729	.189	.005	1.729	.259

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1.045	1	1.045	.345	.558	.001	.345	.090
FaveGenre * Gender	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1.838	3	.613	.178	.911	.002	.534	.083
	Q29e. I can hardly wait to see what technology comes next.	9.785	3	3.262	1.029	.380	.009	3.088	.279
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	26.225	3	8.742	2.883	.036	.024	8.650	.687
Error	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1194.784	347	3.443					
	Q29e. I can hardly wait to see what technology comes next.	1099.595	347	3.169					

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1052.016	347	3.032					
Total	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	10773.000	355						
	Q29e. I can hardly wait to see what technology comes next.	8112.000	355						
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	7294.000	355						
Corrected Total	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1246.462	354						
	Q29e. I can hardly wait to see what technology comes next.	1133.194	354						

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1107.172	354					

a. R Squared = .041 (Adjusted R Squared = .022)

b. R Squared = .030 (Adjusted R Squared = .010)

c. R Squared = .050 (Adjusted R Squared = .031)

d. Computed using alpha = .05

Estimated Marginal Means

1. Q5aR Fave genre to see at home

Dependent Variable	Q5aR Fave genre to see at home	Mean	Std. Error	95% Confidence Interval
				Lower Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	5.039	.181	4.683
	Comedy	5.510	.190	5.136
	Romance, drama	4.455	.316	3.834
	Other	5.342	.224	4.901
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	4.383	.174	4.042
	Comedy	4.614	.182	4.255
	Romance, drama	3.945	.303	3.349
	Other	4.717	.215	4.294
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	4.454	.170	4.120
	Comedy	4.243	.178	3.892
	Romance, drama	4.032	.296	3.449
	Other	3.859	.211	3.445

1. Q5aR Fave genre to see at home

Dependent Variable	Q5aR Fave genre to see at home	95% Confidence Interval
		Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	5.395
	Comedy	5.884
	Romance, drama	5.076
	Other	5.784
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	4.725
	Comedy	4.973
	Romance, drama	4.541
	Other	5.141
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	4.788
	Comedy	4.594
	Romance, drama	4.615
	Other	4.273

2. Gender

Dependent Variable	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1-Male	4.851	.197	4.463	5.240
	2-Female	5.321	.126	5.074	5.569
Q29e. I can hardly wait to see what technology comes next.	1-Male	4.563	.189	4.190	4.935
	2-Female	4.267	.121	4.030	4.504
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1-Male	4.212	.185	3.847	4.576
	2-Female	4.083	.118	3.851	4.315

3. Q5aR Fave genre to see at home * Gender

Dependent Variable	Q5aR Fave genre to see at home	Gender	Mean	Std. Error
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	1-Male	4.828	.244
		2-Female	5.250	.268
	Comedy	1-Male	5.238	.286
		2-Female	5.782	.250
	Romance, drama	1-Male	4.100	.587
		2-Female	4.810	.234
	Other	1-Male	5.240	.371
		2-Female	5.444	.253
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.621	.234
		2-Female	4.146	.257
	Comedy	1-Male	4.810	.275
		2-Female	4.418	.240
	Romance, drama	1-Male	3.700	.563
		2-Female	4.190	.224
	Other	1-Male	5.120	.356
		2-Female	4.315	.242
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.741	.229
		2-Female	4.167	.251
	Comedy	1-Male	3.905	.269
		2-Female	4.582	.235
	Romance, drama	1-Male	4.000	.551
		2-Female	4.063	.219
	Other	1-Male	4.200	.348
		2-Female	3.519	.237

3. Q5aR Fave genre to see at home * Gender

Dependent Variable	Q5aR Fave genre to see at home	Gender	95% Confidence Interval	
			Lower Bound	Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting,	Action, adventure, scifi	1-Male	4.348	5.307
		2-Female	4.723	5.777
	Comedy	1-Male	4.675	5.801

streaming films.		2-Female	5.290	6.274
	Romance, drama	1-Male	2.946	5.254
		2-Female	4.350	5.269
	Other	1-Male	4.510	5.970
		2-Female	4.948	5.941
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.161	5.080
		2-Female	3.640	4.651
	Comedy	1-Male	4.269	5.350
		2-Female	3.946	4.890
	Romance, drama	1-Male	2.593	4.807
		2-Female	3.749	4.632
	Other	1-Male	4.420	5.820
		2-Female	3.838	4.791
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.292	5.191
		2-Female	3.672	4.661
	Comedy	1-Male	3.376	4.433
		2-Female	4.120	5.044
	Romance, drama	1-Male	2.917	5.083
		2-Female	3.632	4.495
	Other	1-Male	3.515	4.885
		2-Female	3.052	3.985

Post Hoc Tests

Q5aR Fave genre to see at home

Multiple Comparisons

Dependent Variable		(I) Q5aR Fave genre to see at home	(J) Q5aR Fave genre to see at home	Mean Difference (I-J)	Std. Error
Q29a. I love the options at my finger tips today,	Scheffe	Action, adventure, scifi	Comedy	-.53	.261
			Romance, drama	.31	.282

watching videos on my phone, texting, streaming films.			Other	-.36	.276
		Comedy	Action, adventure, scifi	.53	.261
			Romance, drama	.83*	.288
			Other	.17	.281
		Romance, drama	Action, adventure, scifi	-.31	.282
			Comedy	-.83*	.288
			Other	-.67	.301
		Other	Action, adventure, scifi	.36	.276
			Comedy	-.17	.281
			Romance, drama	.67	.301
Q29e. I can hardly wait to see what technology comes next.	Scheffe	Action, adventure, scifi	Comedy	-.18	.250
			Romance, drama	.28	.271
			Other	-.16	.265
		Comedy	Action, adventure, scifi	.18	.250
			Romance, drama	.46	.276
			Other	.02	.270
		Romance, drama	Action, adventure, scifi	-.28	.271
			Comedy	-.46	.276
			Other	-.45	.289
		Other	Action, adventure, scifi	.16	.265
			Comedy	-.02	.270
			Romance, drama	.45	.289
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Scheffe	Action, adventure, scifi	Comedy	.19	.245
			Romance, drama	.43	.265
			Other	.75*	.259
		Comedy	Action, adventure, scifi	-.19	.245
			Romance, drama	.23	.270
			Other	.55	.264
		Romance, drama	Action, adventure, scifi	-.43	.265
			Comedy	-.23	.270
			Other	.32	.283
		Other	Action, adventure, scifi	-.75*	.259
			Comedy	-.55	.264
			Romance, drama	-.32	.283

Multiple Comparisons

Dependent Variable		(I) Q5aR Fave genre to see at home	(J) Q5aR Fave genre to see at home	Sig.	95% Confidence Interval Lower Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Scheffe	Action, adventure, scifi	Comedy	.253	-1.26
			Romance, drama	.758	-.49
			Other	.635	-1.14
		Comedy	Action, adventure, scifi	.253	-.20
			Romance, drama	.040	.03
			Other	.950	-.62
		Romance, drama	Action, adventure, scifi	.758	-1.10
			Comedy	.040	-1.64
			Other	.181	-1.51
		Other	Action, adventure, scifi	.635	-.41
			Comedy	.950	-.96
			Romance, drama	.181	-.18
Q29e. I can hardly wait to see what technology comes next.	Scheffe	Action, adventure, scifi	Comedy	.912	-.88
			Romance, drama	.780	-.48
			Other	.943	-.91
		Comedy	Action, adventure, scifi	.912	-.52
			Romance, drama	.419	-.31
			Other	1.000	-.74
		Romance, drama	Action, adventure, scifi	.780	-1.04
			Comedy	.419	-1.24
			Other	.497	-1.26
		Other	Action, adventure, scifi	.943	-.58
			Comedy	1.000	-.78
			Romance, drama	.497	-.37
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Scheffe	Action, adventure, scifi	Comedy	.892	-.49
			Romance, drama	.460	-.32
			Other	.041	.02
		Comedy	Action, adventure, scifi	.892	-.88
			Romance, drama	.861	-.52
			Other	.222	-.19

	Romance, drama	Action, adventure, scifi	.460	-1.17
		Comedy	.861	-.99
		Other	.732	-.47
	Other	Action, adventure, scifi	.041	-1.47
		Comedy	.222	-1.30
		Romance, drama	.732	-1.11

Multiple Comparisons

Dependent Variable		(I) Q5aR Fave genre to see at home	(J) Q5aR Fave genre to see at home	95% Confidence Interval Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Scheffe	Action, adventure, scifi	Comedy	.20
			Romance, drama	1.10
			Other	.41
		Comedy	Action, adventure, scifi	1.26
			Romance, drama	1.64
			Other	.96
		Romance, drama	Action, adventure, scifi	.49
			Comedy	-.03
			Other	.18
		Other	Action, adventure, scifi	1.14
			Comedy	.62
			Romance, drama	1.51
Q29e. I can hardly wait to see what technology comes next.	Scheffe	Action, adventure, scifi	Comedy	.52
			Romance, drama	1.04
			Other	.58
		Comedy	Action, adventure, scifi	.88
			Romance, drama	1.24
			Other	.78
		Romance, drama	Action, adventure, scifi	.48
			Comedy	.31
			Other	.37
		Other	Action, adventure, scifi	.91
			Comedy	.74
			Romance, drama	1.26
Q29h. I am a person who	Scheffe	Action, adventure, scifi	Comedy	.88

loves variety, watches new shows on TV and sees a lot of different films in theaters.		Romance, drama	1.17
		Other	1.47
	Comedy	Action, adventure, scifi	.49
		Romance, drama	.99
		Other	1.30
	Romance, drama	Action, adventure, scifi	.32
		Comedy	.52
		Other	1.11
	Other	Action, adventure, scifi	-.02
		Comedy	.19
		Romance, drama	.47

Based on observed means.

The error term is Mean Square(Error) = 3.032.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.

	Q5aR Fave genre to see at home	N	Subset 1	Subset 2
Tukey B[a,b,c]	Romance, drama	73	4.71	
	Action, adventure, scifi	106	5.02	5.02
	Other	79	5.38	5.38
	Comedy	97		5.55
Scheffe[a,b,c]	Romance, drama	73	4.71	
	Action, adventure, scifi	106	5.02	5.02
	Other	79	5.38	5.38
	Comedy	97		5.55
	Sig.		.134	.322

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 3.443.

a. Uses Harmonic Mean Sample Size = 86.768.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.
Type I error levels are not guaranteed.

c. Alpha = .05.

Q29e. I can hardly wait to see what technology comes next.

	Q5aR Fave genre to see at home	N	Subset 1
Tukey B[a,b,c]	Romance, drama	73	4.12
	Action, adventure, scifi	106	4.41
	Other	79	4.57
	Comedy	97	4.59
Scheffe[a,b,c]	Romance, drama	73	4.12
	Action, adventure, scifi	106	4.41
	Other	79	4.57
	Comedy	97	4.59
	Sig.		.400

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 3.169.

a. Uses Harmonic Mean Sample Size = 86.768.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.

	Q5aR Fave genre to see at home	N	Subset 1	Subset 2
Tukey B[a,b,c]	Other	79	3.73	
	Romance, drama	73	4.05	4.05
	Comedy	97	4.29	4.29
	Action, adventure, scifi	106		4.48
Scheffe[a,b,c]	Other	79	3.73	

	Romance, drama	73	4.05	4.05
	Comedy	97	4.29	4.29
	Action, adventure, scifi	106		4.48
	Sig.		.223	.458

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 3.032.

a. Uses Harmonic Mean Sample Size = 86.768.

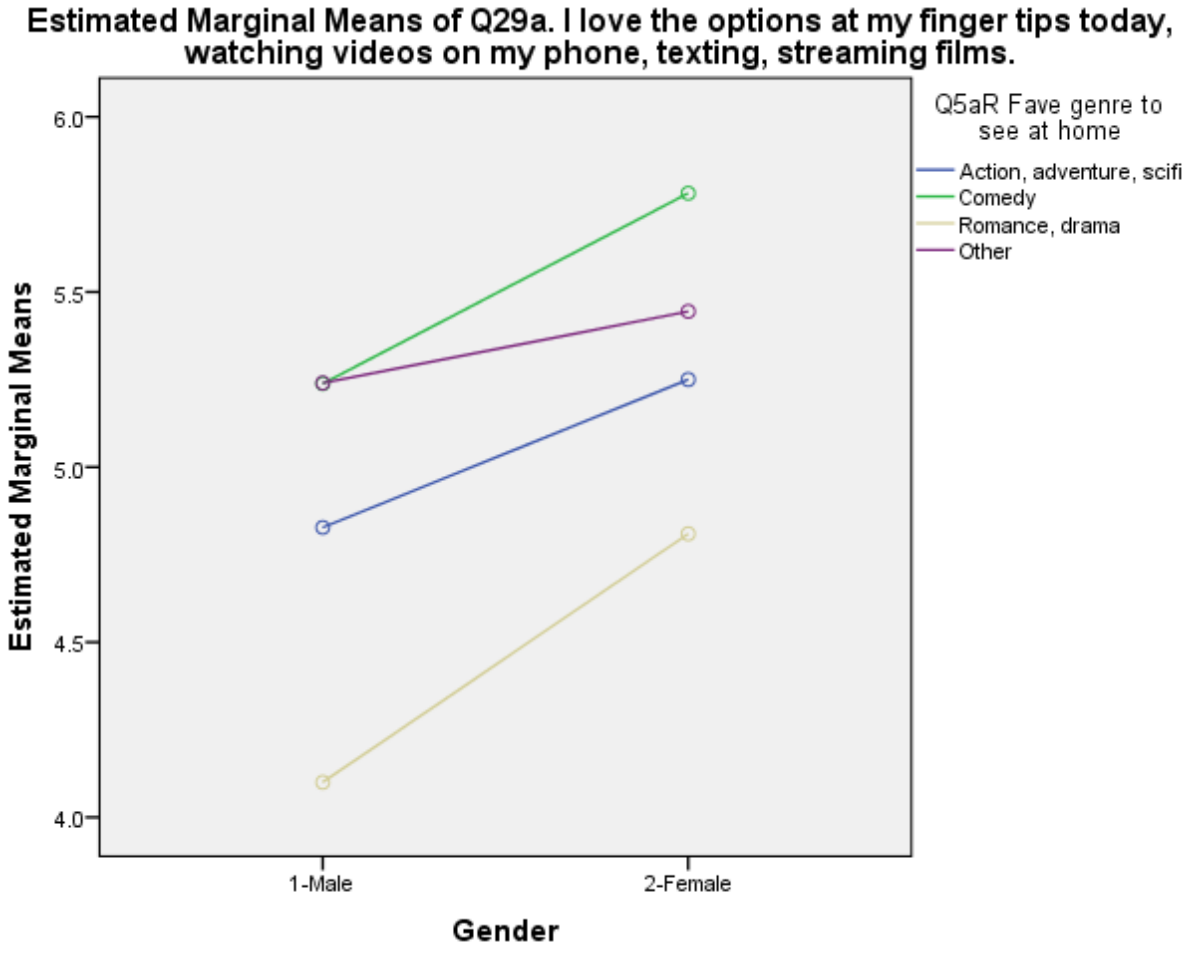
b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

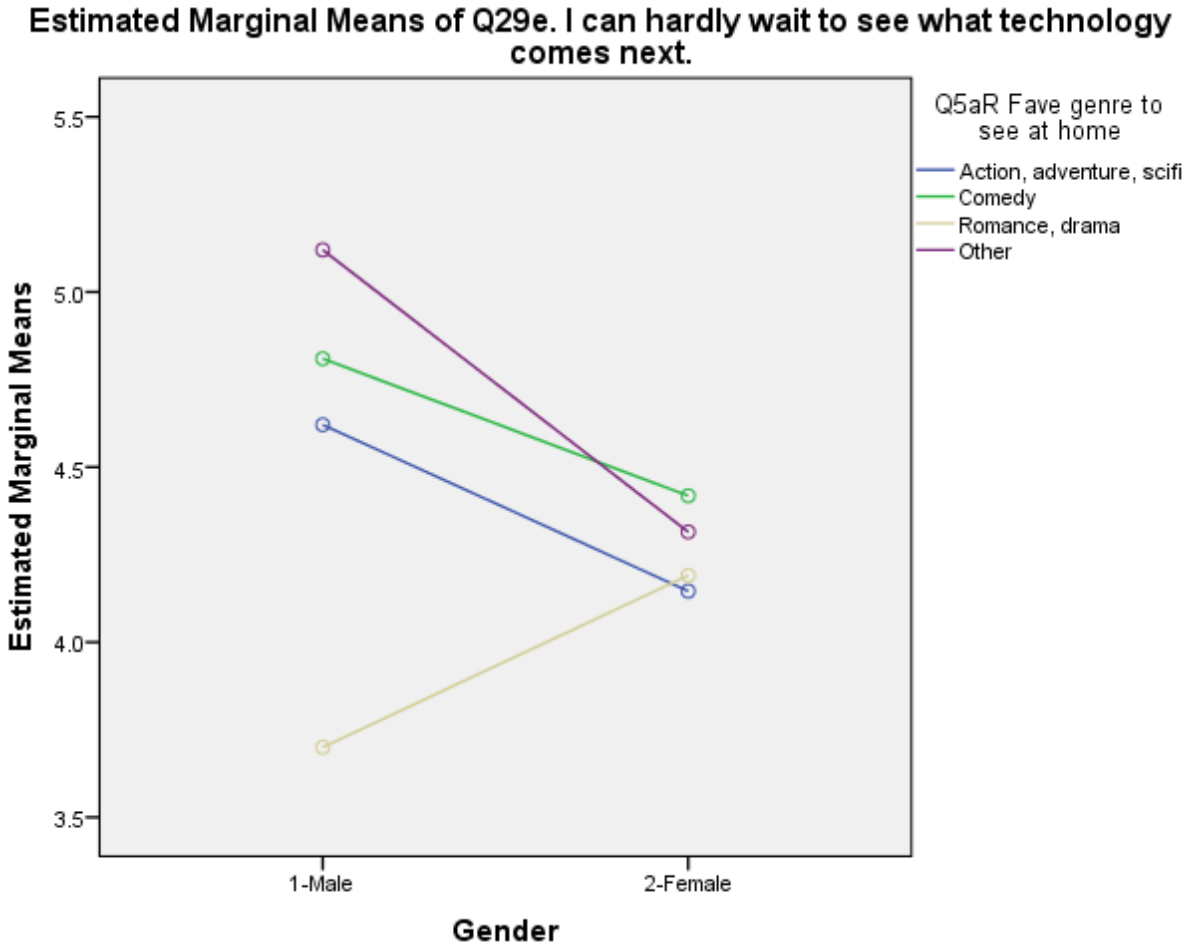
c. Alpha = .05.

Profile Plots

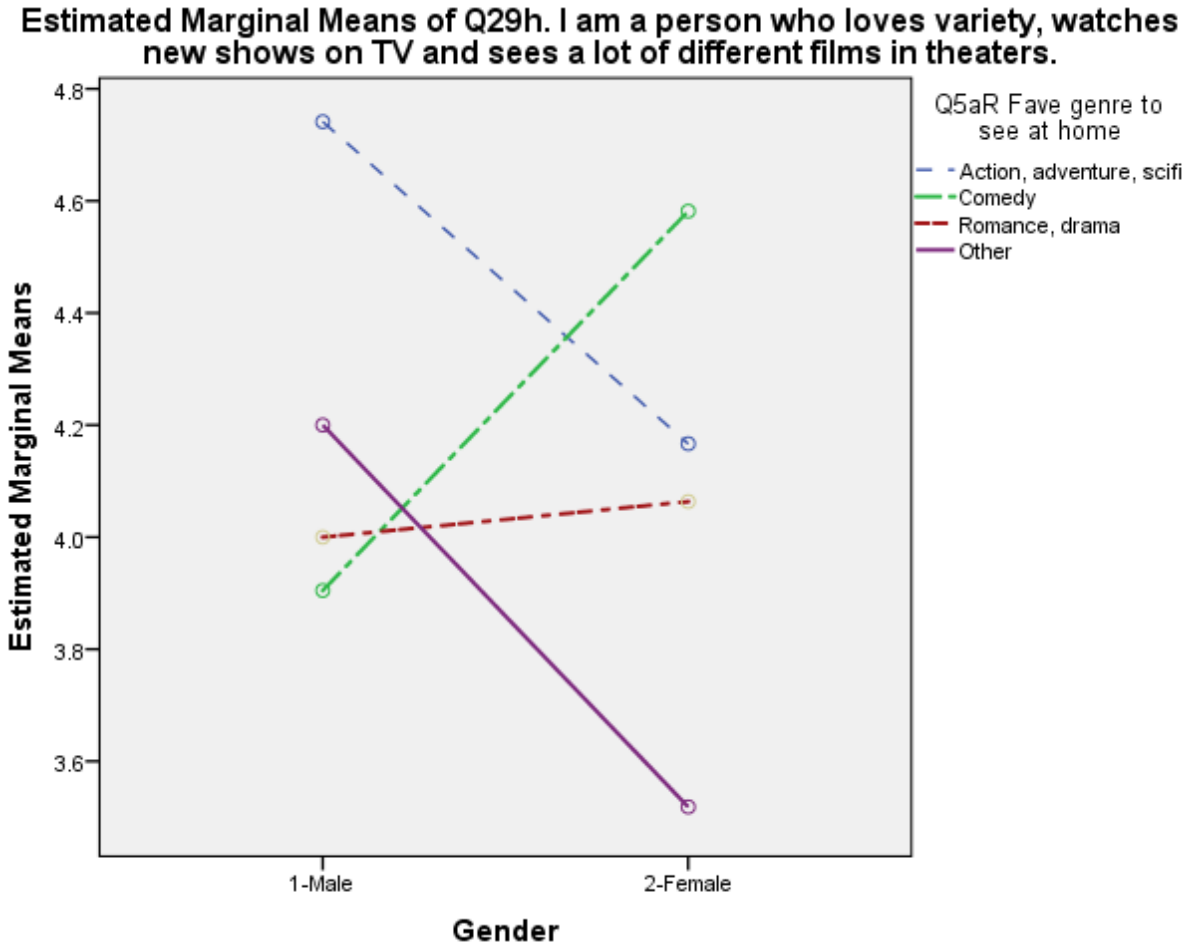
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.



Q29e. I can hardly wait to see what technology comes next.



Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.



III. (b) MANCOVA Output

```
GLM Q29a Q29e Q29h BY FaveGenre Gender WITH Q29o Q29t
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Gender*FaveGenre)
  /EMMEANS=TABLES(FaveGenre) WITH(Q29o=MEAN Q29t=MEAN)
  /EMMEANS=TABLES(Gender) WITH(Q29o=MEAN Q29t=MEAN)
  /EMMEANS=TABLES(FaveGenre*Gender) WITH(Q29o=MEAN Q29t=MEAN)
  /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /DESIGN=Q29o Q29t FaveGenre Gender FaveGenre*Gender.
```

General Linear Model

Notes

Output Created		19-APR-2016 10:33:45
Comments		
Input	Data	C:\Users\2651491\Downloads\filmtv (1).sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	543
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 Q29a Q29e Q29h BY FaveGenre Gender WITH Q29o Q29t /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /PLOT=PROFILE(Gender*FaveGenre) /EMMEANS=TABLES(FaveGenre) WITH(Q29o=MEAN Q29t=MEAN) /EMMEANS=TABLES(Gender) WITH(Q29o=MEAN Q29t=MEAN) /EMMEANS=TABLES(FaveGenre*Gender) WITH(Q29o=MEAN Q29t=MEAN) /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY /CRITERIA=ALPHA(.05) /DESIGN=Q29o Q29t FaveGenre Gender FaveGenre*Gender.
Resources	Processor Time	00:00:00.37
	Elapsed Time	00:00:00.59

Between-Subjects Factors

		Value Label	N
Q5aR Fave genre to see at home	1.00	Action, adventure, scifi	106
	2.00	Comedy	97
	3.00	Romance, drama	73
	4.00	Other	79
Gender	1	1-Male	135
	2	2-Female	220

Descriptive Statistics

	Q5aR Fave genre to see at home	Gender	Mean	Std. Deviation	N
Q29a. I love the options at	Action, adventure, scifi	1-Male	4.83	1.966	58

my finger tips today, watching videos on my phone, texting, streaming films.		2-Female	5.25	1.578	48
		Total	5.02	1.805	106
	Comedy	1-Male	5.24	2.010	42
		2-Female	5.78	1.607	55
		Total	5.55	1.803	97
	Romance, drama	1-Male	4.10	1.969	10
		2-Female	4.81	1.983	63
		Total	4.71	1.982	73
	Other	1-Male	5.24	1.985	25
		2-Female	5.44	1.839	54
		Total	5.38	1.876	79
	Total	1-Male	4.98	1.987	135
		2-Female	5.30	1.799	220
		Total	5.18	1.876	355
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.62	1.674	58
		2-Female	4.15	1.663	48
		Total	4.41	1.678	106
	Comedy	1-Male	4.81	1.627	42
		2-Female	4.42	1.950	55
		Total	4.59	1.819	97
	Romance, drama	1-Male	3.70	1.703	10
		2-Female	4.19	1.749	63
		Total	4.12	1.740	73
	Other	1-Male	5.12	1.740	25
		2-Female	4.31	1.979	54
		Total	4.57	1.933	79
	Total	1-Male	4.70	1.689	135
		2-Female	4.27	1.832	220
		Total	4.43	1.789	355
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.74	1.607	58
		2-Female	4.17	1.767	48
		Total	4.48	1.697	106
	Comedy	1-Male	3.90	1.665	42
		2-Female	4.58	1.560	55
		Total	4.29	1.633	97
	Romance, drama	1-Male	4.00	1.944	10

	2-Female	4.06	1.813	63
	Total	4.05	1.817	73
Other	1-Male	4.20	1.756	25
	2-Female	3.52	1.950	54
	Total	3.73	1.906	79
Total	1-Male	4.33	1.701	135
	2-Female	4.08	1.806	220
	Total	4.17	1.769	355

Box's Test of Equality of Covariance Matrices[a]

Box's M	31.007
F	.706
df1	42
df2	20006.754
Sig.	.924

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.[a]

a. Design: Intercept + Q29o + Q29t + FaveGenre + Gender + FaveGenre * Gender

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.204	29.272[b]	3.000	343.000	.000
	Wilks' Lambda	.796	29.272[b]	3.000	343.000	.000
	Hotelling's Trace	.256	29.272[b]	3.000	343.000	.000
	Roy's Largest Root	.256	29.272[b]	3.000	343.000	.000
Q29o	Pillai's Trace	.079	9.830[b]	3.000	343.000	.000
	Wilks' Lambda	.921	9.830[b]	3.000	343.000	.000

	Hotelling's Trace	.086	9.830[b]	3.000	343.000	.000
	Roy's Largest Root	.086	9.830[b]	3.000	343.000	.000
Q29t	Pillai's Trace	.084	10.544[b]	3.000	343.000	.000
	Wilks' Lambda	.916	10.544[b]	3.000	343.000	.000
	Hotelling's Trace	.092	10.544[b]	3.000	343.000	.000
	Roy's Largest Root	.092	10.544[b]	3.000	343.000	.000
FaveGenre	Pillai's Trace	.050	1.938	9.000	1035.000	.043
	Wilks' Lambda	.951	1.944	9.000	834.922	.043
	Hotelling's Trace	.051	1.945	9.000	1025.000	.043
	Roy's Largest Root	.037	4.295[c]	3.000	345.000	.005
Gender	Pillai's Trace	.026	3.076[b]	3.000	343.000	.028
	Wilks' Lambda	.974	3.076[b]	3.000	343.000	.028
	Hotelling's Trace	.027	3.076[b]	3.000	343.000	.028
	Roy's Largest Root	.027	3.076[b]	3.000	343.000	.028
FaveGenre * Gender	Pillai's Trace	.028	1.091	9.000	1035.000	.367
	Wilks' Lambda	.972	1.089	9.000	834.922	.368
	Hotelling's Trace	.029	1.087	9.000	1025.000	.369
	Roy's Largest Root	.021	2.362[c]	3.000	345.000	.071

Multivariate Tests[a]

Effect		Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Intercept	Pillai's Trace	.204	87.817	1.000
	Wilks' Lambda	.204	87.817	1.000
	Hotelling's Trace	.204	87.817	1.000
	Roy's Largest Root	.204	87.817	1.000
Q29o	Pillai's Trace	.079	29.489	.998
	Wilks' Lambda	.079	29.489	.998
	Hotelling's Trace	.079	29.489	.998
	Roy's Largest Root	.079	29.489	.998
Q29t	Pillai's Trace	.084	31.631	.999
	Wilks' Lambda	.084	31.631	.999
	Hotelling's Trace	.084	31.631	.999
	Roy's Largest Root	.084	31.631	.999
FaveGenre	Pillai's Trace	.017	17.445	.846
	Wilks' Lambda	.017	14.165	.745
	Hotelling's Trace	.017	17.505	.848
	Roy's Largest Root	.036	12.885	.863

Gender	Pillai's Trace	.026	9.228	.718
	Wilks' Lambda	.026	9.228	.718
	Hotelling's Trace	.026	9.228	.718
	Roy's Largest Root	.026	9.228	.718
FaveGenre * Gender	Pillai's Trace	.009	9.815	.550
	Wilks' Lambda	.009	7.944	.447
	Hotelling's Trace	.009	9.784	.548
	Roy's Largest Root	.020	7.087	.590

a. Design: Intercept + Q29o + Q29t + FaveGenre + Gender + FaveGenre * Gender

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = .05

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1.533	7	347	.155
Q29e. I can hardly wait to see what technology comes next.	1.056	7	347	.392
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1.141	7	347	.336

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a]

a. Design: Intercept + Q29o + Q29t + FaveGenre + Gender + FaveGenre * Gender

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[d]
Corrected Model	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	148.226[a]	9	16.470	5.174	.000	.119	46.564	1.000
	Q29e. I can hardly wait to see what technology comes next.	107.157[b]	9	11.906	4.003	.000	.095	36.031	.996
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	158.935[c]	9	17.659	6.425	.000	.144	57.826	1.000
Intercept	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	170.918	1	170.918	53.692	.000	.135	53.692	1.000
	Q29e. I can hardly wait to see what technology comes next.	143.032	1	143.032	48.094	.000	.122	48.094	1.000

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	78.656	1	78.656	28.618	.000	.077	28.618	1.000
Q29o	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	66.107	1	66.107	20.767	.000	.057	20.767	.995
	Q29e. I can hardly wait to see what technology comes next.	15.796	1	15.796	5.311	.022	.015	5.311	.632
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	36.426	1	36.426	13.253	.000	.037	13.253	.953
Q29t	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	19.791	1	19.791	6.217	.013	.018	6.217	.701
	Q29e. I can hardly wait to see what technology comes next.	49.542	1	49.542	16.658	.000	.046	16.658	.983

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	54.477	1	54.477	19.821	.000	.054	19.821	.993
FaveGenre	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	28.411	3	9.470	2.975	.032	.025	8.925	.702
	Q29e. I can hardly wait to see what technology comes next.	12.531	3	4.177	1.405	.241	.012	4.214	.372
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	16.288	3	5.429	1.975	.117	.017	5.926	.508
Gender	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	8.409	1	8.409	2.642	.105	.008	2.642	.367
	Q29e. I can hardly wait to see what technology comes next.	7.575	1	7.575	2.547	.111	.007	2.547	.356

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	2.692	1	2.692	.979	.323	.003	.979	.167
FaveGenre * Gender	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	3.272	3	1.091	.343	.795	.003	1.028	.117
	Q29e. I can hardly wait to see what technology comes next.	6.300	3	2.100	.706	.549	.006	2.118	.200
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	19.272	3	6.424	2.337	.073	.020	7.012	.585
Error	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1098.236	345	3.183					
	Q29e. I can hardly wait to see what technology comes next.	1026.038	345	2.974					

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	948.237	345	2.749					
Total	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	10773.000	355						
	Q29e. I can hardly wait to see what technology comes next.	8112.000	355						
	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	7294.000	355						
Corrected Total	Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1246.462	354						
	Q29e. I can hardly wait to see what technology comes next.	1133.194	354						

	Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1107.172	354					

a. R Squared = .119 (Adjusted R Squared = .096)

b. R Squared = .095 (Adjusted R Squared = .071)

c. R Squared = .144 (Adjusted R Squared = .121)

d. Computed using alpha = .05

Estimated Marginal Means

1. Q5aR Fave genre to see at home

Dependent Variable	Q5aR Fave genre to see at home	Mean	Std. Error	95% Confidence Interval
				Lower Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	5.087[a]	.174	4.744
	Comedy	5.476[a]	.183	5.116
	Romance, drama	4.497[a]	.304	3.899
	Other	5.413[a]	.217	4.985
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	4.423[a]	.168	4.091
	Comedy	4.580[a]	.177	4.232
	Romance, drama	4.019[a]	.294	3.441
	Other	4.725[a]	.210	4.312
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	4.503[a]	.162	4.184
	Comedy	4.203[a]	.170	3.869
	Romance, drama	4.108[a]	.283	3.552
	Other	3.889[a]	.202	3.492

1. Q5aR Fave genre to see at home

Dependent Variable	Q5aR Fave genre to see at home	95% Confidence Interval
		Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	5.430
	Comedy	5.836
	Romance, drama	5.096
	Other	5.840
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	4.754
	Comedy	4.928
	Romance, drama	4.598
	Other	5.138
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	4.821
	Comedy	4.538
	Romance, drama	4.664
	Other	4.286

a. Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69.

2. Gender

Dependent Variable	Gender	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	1-Male	4.934[a]	.191	4.560	5.309
	2-Female	5.302[a]	.121	5.064	5.540
Q29e. I can hardly wait to see what technology comes next.	1-Male	4.611[a]	.184	4.249	4.973
	2-Female	4.262[a]	.117	4.032	4.492
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	1-Male	4.280[a]	.177	3.932	4.628
	2-Female	4.072[a]	.112	3.851	4.293

a. Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69.

3. Q5aR Fave genre to see at home * Gender

Dependent Variable	Q5aR Fave genre to see at home	Gender	Mean	Std. Error
Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.	Action, adventure, scifi	1-Male	4.791[a]	.235
		2-Female	5.382[a]	.259
	Comedy	1-Male	5.294[a]	.276
		2-Female	5.657[a]	.242
	Romance, drama	1-Male	4.253[a]	.566
		2-Female	4.741[a]	.225
	Other	1-Male	5.399[a]	.362
		2-Female	5.426[a]	.243
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.616[a]	.227
		2-Female	4.229[a]	.250
	Comedy	1-Male	4.820[a]	.267
		2-Female	4.339[a]	.234
	Romance, drama	1-Male	3.889[a]	.547
		2-Female	4.150[a]	.218
	Other	1-Male	5.119[a]	.350
		2-Female	4.331[a]	.235
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.725[a]	.218
		2-Female	4.280[a]	.240
	Comedy	1-Male	3.932[a]	.256
		2-Female	4.474[a]	.225
	Romance, drama	1-Male	4.209[a]	.526
		2-Female	4.007[a]	.209
	Other	1-Male	4.252[a]	.336
		2-Female	3.526[a]	.226

3. Q5aR Fave genre to see at home * Gender

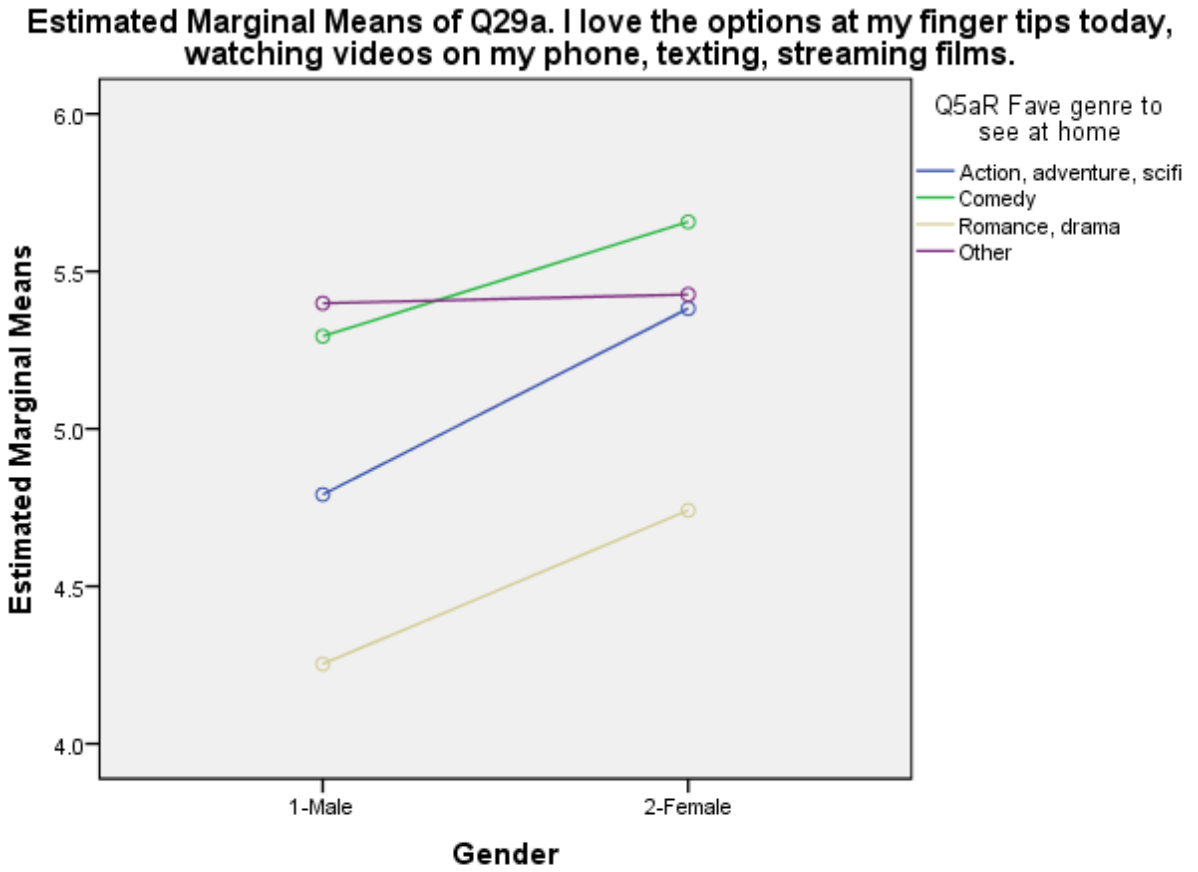
Dependent Variable	Q5aR Fave genre to see at home	Gender	95% Confidence Interval	
			Lower Bound	Upper Bound
Q29a. I love the options at my finger tips today, watching	Action, adventure, scifi	1-Male	4.330	5.253
		2-Female	4.873	5.891

videos on my phone, texting, streaming films.	Comedy	1-Male	4.752	5.837
		2-Female	5.182	6.133
	Romance, drama	1-Male	3.141	5.366
		2-Female	4.299	5.184
	Other	1-Male	4.687	6.111
		2-Female	4.948	5.905
Q29e. I can hardly wait to see what technology comes next.	Action, adventure, scifi	1-Male	4.170	5.062
		2-Female	3.737	4.721
	Comedy	1-Male	4.296	5.345
		2-Female	3.880	4.799
	Romance, drama	1-Male	2.813	4.965
		2-Female	3.721	4.578
	Other	1-Male	4.431	5.807
		2-Female	3.869	4.793
Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.	Action, adventure, scifi	1-Male	4.297	5.154
		2-Female	3.808	4.753
	Comedy	1-Male	3.428	4.437
		2-Female	4.032	4.916
	Romance, drama	1-Male	3.175	5.243
		2-Female	3.595	4.418
	Other	1-Male	3.590	4.914
		2-Female	3.082	3.971

a. Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69.

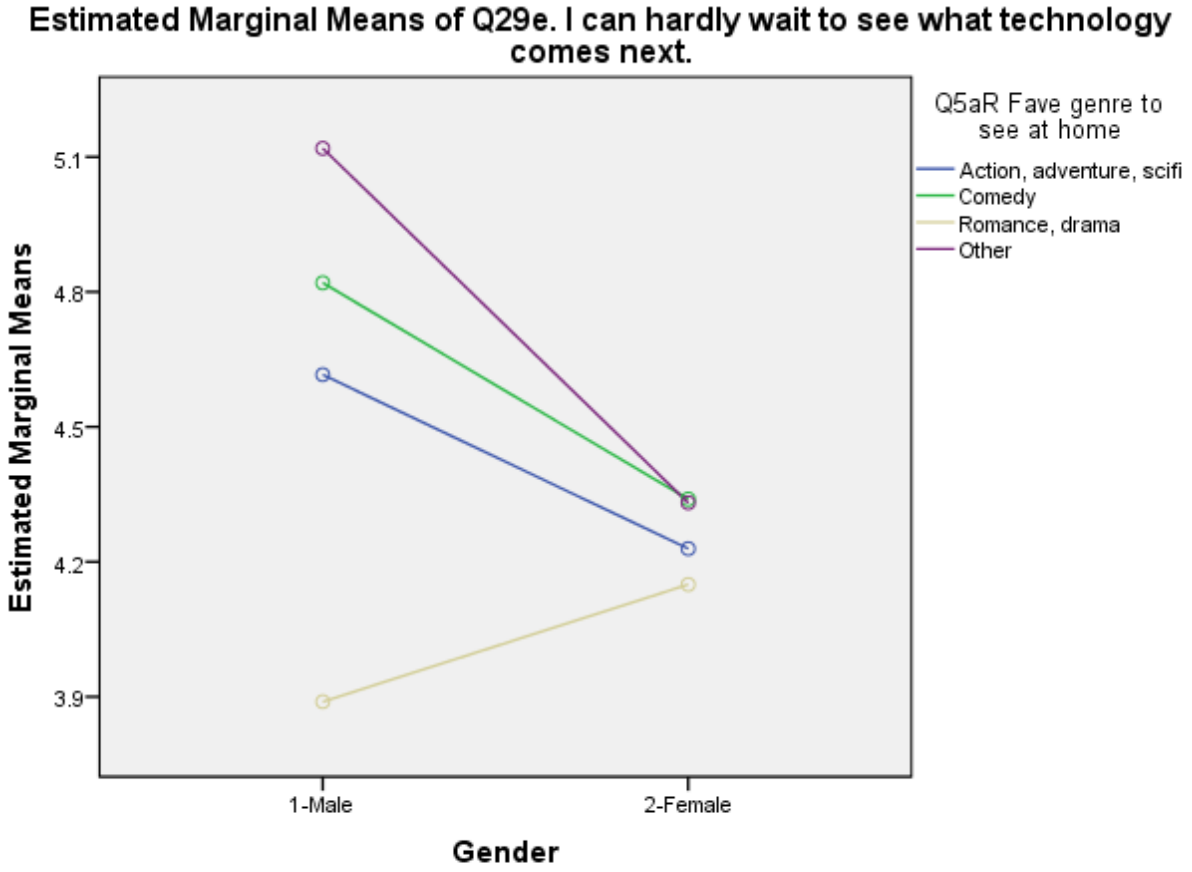
Profile Plots

Q29a. I love the options at my finger tips today, watching videos on my phone, texting, streaming films.



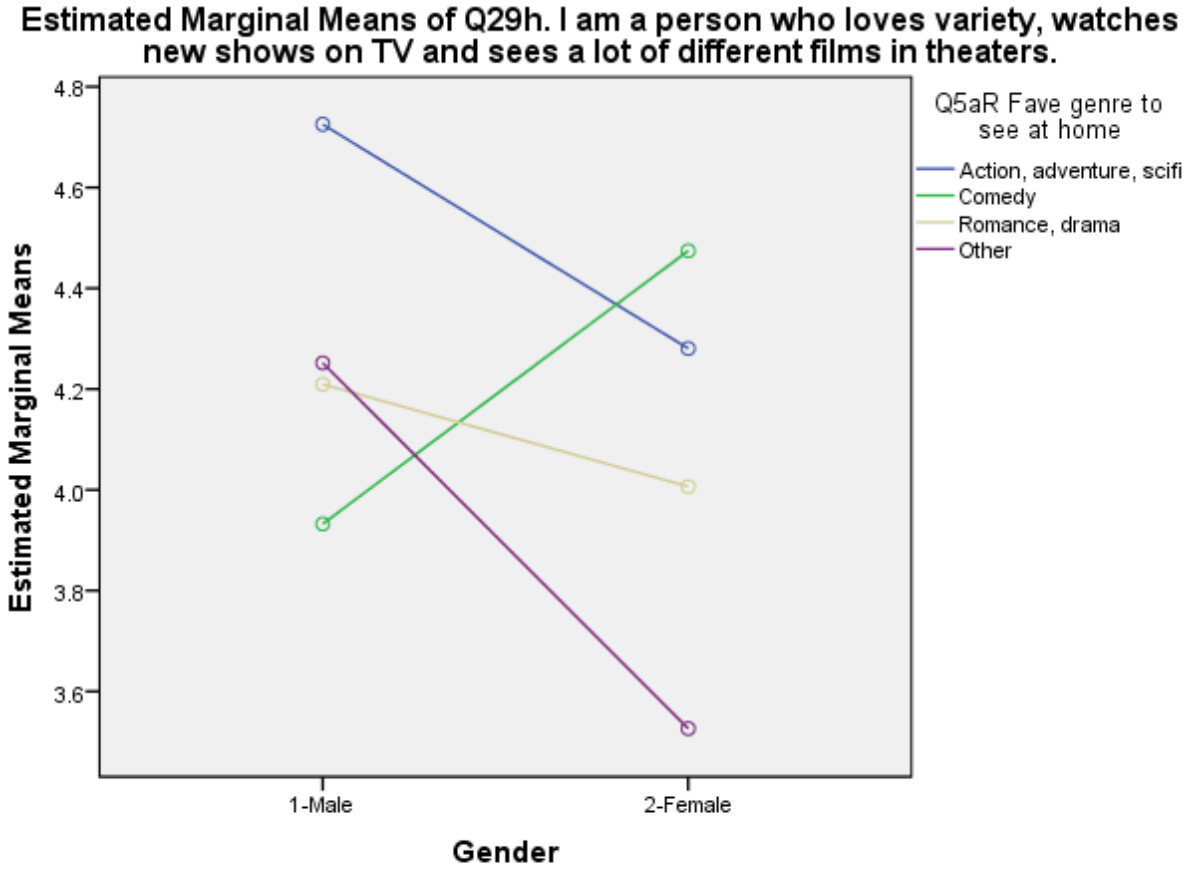
Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69

Q29e. I can hardly wait to see what technology comes next.



Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69

Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.



Covariates appearing in the model are evaluated at the following values: Q29o. I generally think of myself as a happy person. = 5.27, Q29t. I see myself as a citizen of the world. = 4.69

IV. Tabling

Table 1: Multivariate Statistics for MANOVA

Effect		**Value**	**F-Value**	**Sig.**	**Observed Power**
Favorite Genre	Pillai's Trace	.05	1.10	.037	.86
	Wilks' Lambda	.95	2.00	.036	.76
	Hotelling's Trace	.05	2.00	.036	.86
	Roy's Largest Root	.04	4.33[c]	.005	.88
Gender	Pillai's Trace	.03	3.34[b]	.020	.76
	Wilks' Lambda	.97	3.34[b]	.020	.76
	Hotelling's Trace	.03	3.34[b]	.020	.76
	Roy's Largest Root	.03	3.34[b]	.020	.76
Favorite Genre X Gender	Pillai's Trace	.03	1.27	.252	.63
	Wilks' Lambda	.97	1.27	.252	.52
	Hotelling's Trace	.03	1.27	.252	.63
	Roy's Largest Root	.03	2.89[c]	.035	.69

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the sig. level.

Table 2: Two-factor ANOVA Predicting Q29a--"Loving Options at Fingertips" from Favorite Genre and Gender

	Mean	***n***	**Sum of Squares**	***df***	**Mean Square**	**F**	**Sig.**
FaveGenre			32.40	3	10.80	3.14	.026
1-Action, Scifi	5.04[ab]	106					
2-Comedy	5.51[a]	97					
3-Drama, Romance	4.46[b]	73					
4-Other	5.34[ab]	79					
Gender			13.89	1	13.89	4.03	.045
2-Female	3.43	220					
1-Male	3.82	135					
FaveGenre X Gender Interaction			1.84	3	.613	.178	.911
Action,Scifi/Female	5.25	48					
Action,Scifi/Male	4.83	58					
Comedy/Female	5.78	55					
Comedy/Male	5.24	42					
Drama,Romance/Female	4.81	63					
Drama,Romance/Male	4.10	10					
Other/Female	5.44	54					
Other/Male	5.24	25					
Error			1194.78	347	3.44		
Corrected Total			1246.46	355			

Note. Means are estimated marginal means.

Note. For FaveGenre, means that do not share a superscript are significantly different according to the Scheffe post hoc test.

Table 3: Two-factor ANOVA Predicting Q29e--"Can Hardly Wait for New Tech" from Favorite Genre and Gender

	Mean	***n***	**Sum of Squares**	***df***	**Mean Square**	**F**	**Sig.**
FaveGenre			16.41	3	5.47	1.73	.161
1-Action, Scifi	4.38	106					
2-Comedy	4.61	97					
3-Drama, Romance	3.95	73					
4-Other	4.72	79					
Gender			5.48	1	5.48	1.73	.189
2-Female	4.56	220					
1-Male	4.27	135					
FaveGenre X Gender Interaction			9.79	3	3.26	1.03	.380
Action,Scifi/Female	4.15	48					
Action,Scifi/Male	4.62	58					
Comedy/Female	4.42	55					
Comedy/Male	4.81	42					
Drama,Romance/Female	4.19	63					
Drama,Romance/Male	3.70	10					
Other/Female	4.32	54					
Other/Male	5.12	25					
Error			1194.78	347	3.44		
Corrected Total			1246.46	355			

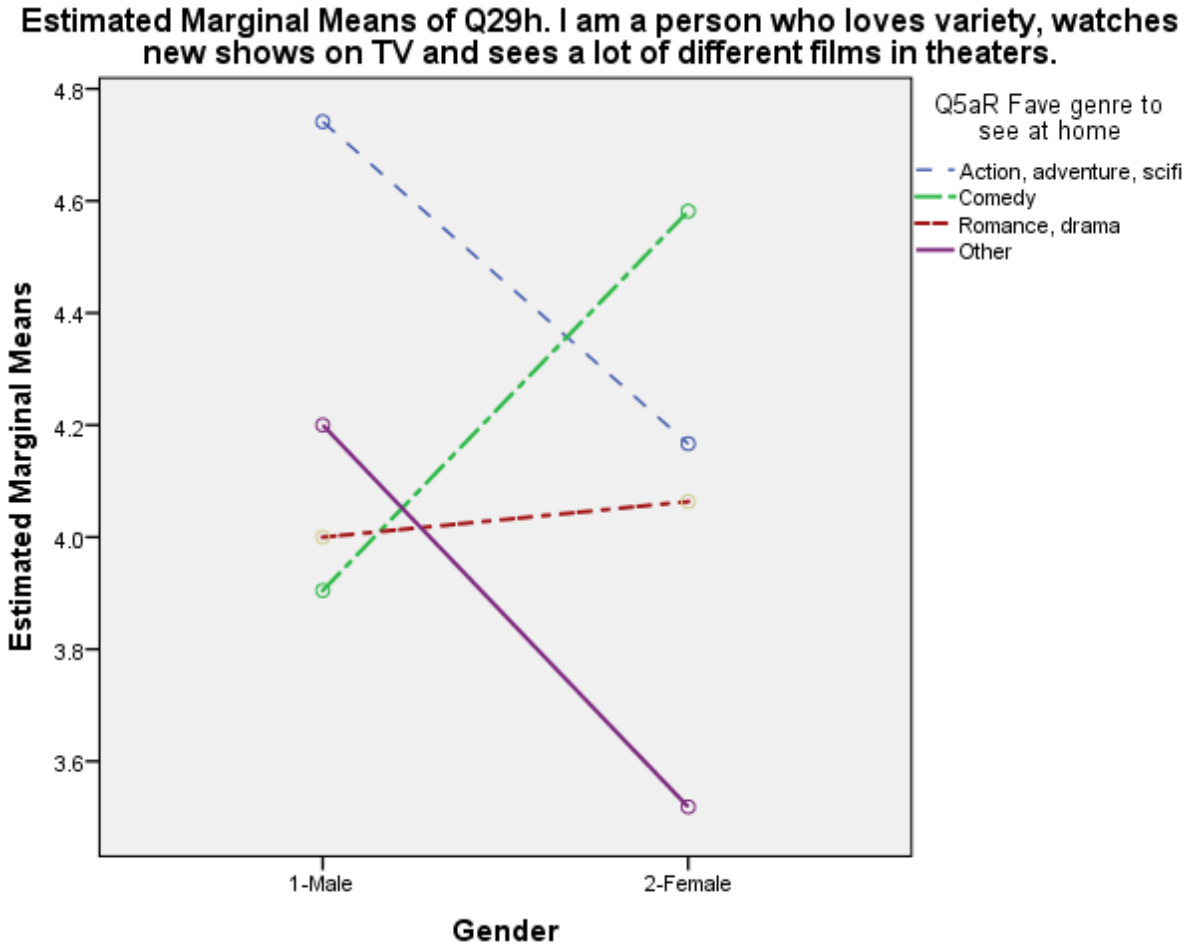
Note. Means are estimated marginal means.

Table 4: Two-factor ANOVA Predicting Q29h--"Loving Variety" from Favorite Genre and Gender

	Mean	***n***	**Sum of Squares**	***df***	**Mean Square**	**F**	**Sig.**
FaveGenre			15.86	3	5.39	1.74	.158
1-Action, Scifi	4.45	106					
2-Comedy	4.24	97					
3-Drama, Romance	4.03	73					
4-Other	3.86	79					
Gender			1.05	1	1.05	,35	.558
2-Female	4.08	220					
1-Male	4.21	135					
FaveGenre X Gender Interaction			26.23	3	8.74	2.88	.036
Action,Scifi/Female	4.17	48					
Action,Scifi/Male	4.74	58					
Comedy/Female	4.58	55					
Comedy/Male	3.90	42					
Drama,Romance/Female	4.06	63					
Drama,Romance/Male	4.00	10					
Other/Female	3.52	54					
Other/Male	4.20	25					
Error			1052.02	347	3.03		
Corrected Total			1107.17	354			

Note. Means are estimated marginal means.

Figure 1: Significant Interaction of Favorite Genre and Gender in the Prediction of Q29h--"Loving Variety"



V. Write-ups of MANOVA and MANCOVA

Three dependent variables were chosen from Neuendorf's Film and TV dataset, all of which had significant correlations at $p < .001$. The variables are as follows:

Q29a. I love the options at my fingertips today, watching videos on my phone, texting, streaming films.

Q29e. I can hardly wait to see what technology comes next.

Q29h. I am a person who loves variety, watches new shows on TV and sees a lot of different films in theaters.

Independent variables chosen were FaveGenre (1 = Action, Scifi, 2 = Comedy, 3 = Romance, Drama, 4 = Other) and Gender. Initially, "FaveGenre" was an opened ended question asking respondents what was their favorite genre of film to watch at home. It was by-hand coded in the data to the categories listed above. This resulted in a 2 x 4 factorial design.

Assumptions

Box's M tested for homoscedasticity, which in order to reject the null hypothesis, M should be non-significant. For this set of variables Box's M was not significant, $p = .924$.

Multivariate Tests

The multivariate tests in Table 1 indicate that the variable FaveGenre has a significant main effect on the set of dependent variables; Pillai's Trace, Wilks' Lambda, Hotelling's Trace and Roy's Largest Root are all $p < .05$. Gender also has a significant main effect, with Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root all $p < .05$. The interaction effect has a significant result only with Roy's Largest Root at $p < .05$. With these results we further examined the significance of the main effects and interaction effect with a series of three ANOVAs.

Table 2 shows the ANOVA predicting Q29a, “Loving Options at Fingertips.” Both FaveGenre and Gender show significant main effects at $p < .05$. The interaction was not significant. The main effect for FaveGenre that people who liked Comedy are higher in “Loving Options at Fingertips” than people who like Action/Scifi, Romance/Drama, and other. A post-hoc Scheffe test revealed that the Comedy group was significantly different from the Romantic/Drama group ($p < .05$). For Gender, the significant main effect shows males are higher in “Loving Options at Fingertips” than females.

Table 3 shows the ANOVA predicting Q29e, “Can Hardly Wait for New Technology.” No significant main effects or significant interaction were found.

Table 4 shows the ANOVA predicting Q29h, “Loving Variety.” Neither main effects was significant, but the interaction term FaveGenre X Gender was significant at $p < .05$. This interaction is displayed in Figure 1. It shows that for those whose favorite genre to see at home is either action adventure or “other,” males like variety more than do females, while for those whose favorite is comedy, females like variety more than do males. Among those whose favorite is romance/drama, there is no real difference between males and females liking variety.

MANCOVA

The following two covariates were added into the analysis to make the MANOVA a MANCOVA:

Q29o. I generally think of myself as a happy person.

Q29t. I see myself as a citizen of the world.

These covariates will operate as a control for the analysis that was previously conducted. Both of the covariates were found to be significant predictors of the three dependent variables as a group. The Pillai’s Trace, Wilks’ Lambda, Hotelling’s Trace, and Roy’s Largest Root were all $p < .001$

for each of the covariates. The addition of these two covariates did not change the MANOVA results appreciably. Indeed, the only change was that the Roy's Largest Root for the interaction term FaveGenre X Gender was reduced to non-significance (p = .071). Both of the main effects remained significant.