```
 GET
  FILE='/Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
USE ALL.
COMPUTE filter_$=(error>79).
VARIABLE LABELS filter_$ 'error>79 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
MIXED trans1 BY real_fake WITH speed switch rha word_length letter_freq
  /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSO
  /FIXED=real_fake speed switch rha real_fake*speed real_fake*switch real_fake*rha speed*switch speed*rha switch*rha rea
SSTYPE(3)
  /METHOD=ML
  /PRINT=SOLUTION
  /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
  /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

Model Dimension[a]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	real_fake	**2**		**1**		
	speed	**1**		**1**		
	switch	**1**		**1**		
	rha	**1**		**1**		
	real_fake * speed	**2**		**1**		
	real_fake * switch	**2**		**1**		
	real_fake * rha	**2**		**1**		
	speed * switch	**1**		**1**		
	speed * rha	**1**		**1**		
	switch * rha	**1**		**1**		
	real_fake * speed * switch	**2**		**1**		
	real_fake * speed * rha	**2**		**1**		
	real_fake * switch * rha	**2**		**1**		
	speed * switch * rha	**1**		**1**		

Model Dimension[a]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
	real_fake * speed * switch * rha	2		1		
	word_length	1		1		
	letter_freq	1		1		
Random Effects	Intercept[b]	1	Variance Components	1	id	
Repeated Effects	orginalcode	239	Identity	1	id	147
Total		266		20		

a. Dependent Variable: trans1.

b. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a]

-2 Log Likelihood	73015.468
Akaike's Information Criterion (AIC)	73055.468
Hurvich and Tsai's Criterion (AICC)	73055.516
Bozdogan's Criterion (CAIC)	73230.932
Schwarz's Bayesian Criterion (BIC)	73210.932

The information criteria are displayed in smaller-is-better forms.

a. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a]

Source	Numerator df	Denominator df	F	Sig.
Intercept	**1**	**456.476**	**361.315**	**.000**
real_fake	**1**	**17411.371**	**34.727**	**.000**
speed	**1**	**172.519**	**1.258**	**.263**
switch	**1**	**17410.032**	**2.179**	**.140**
rha	**1**	**17410.281**	**10.125**	**.001**
real_fake * speed	**1**	**17411.201**	**8.353**	**.004**
real_fake * switch	**1**	**17410.517**	**12.524**	**.000**
real_fake * rha	**1**	**17410.039**	**.006**	**.937**
speed * switch	**1**	**17410.010**	**.133**	**.715**
speed * rha	**1**	**17410.250**	**.716**	**.397**
switch * rha	**1**	**17410.042**	**1.844**	**.174**
real_fake * speed * switch	**1**	**17410.546**	**2.132**	**.144**
real_fake * speed * rha	**1**	**17410.000**	**.241**	**.623**
real_fake * switch * rha	**1**	**17421.185**	**5.824**	**.016**
speed * switch * rha	**1**	**17410.017**	**2.596**	**.107**
real_fake * speed * switch * rha	**1**	**17420.682**	**4.284**	**.038**
word_length	**1**	**17413.913**	**18.278**	**.000**
letter_freq	**1**	**17410.093**	**112.585**	**.000**

a. Dependent Variable: trans1.

Estimates of Fixed Effects[a]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	5.570434	.283072	562.781	19.679	.000	5.014428	6.126441
[real_fake=1.00]	-.935633	.158771	17411.371	-5.893	.000	-1.246839	-.624426
[real_fake=2.00]	0[b]	0	.	.	.	.	.
speed	-.000137	.004431	223.959	-.031	.975	-.008868	.008595
switch	.264884	.076408	17410.142	3.467	.001	.115116	.414653
rha	.085575	.037789	17410.156	2.265	.024	.011504	.159645
[real_fake=1.00] * speed	-.009039	.003127	17411.201	-2.890	.004	-.015169	-.002909
[real_fake=2.00] * speed	0[b]	0	.	.	.	.	.
[real_fake=1.00] * switch	-.374197	.105739	17410.517	-3.539	.000	-.581455	-.166939
[real_fake=2.00] * switch	0[b]	0	.	.	.	.	.
[real_fake=1.00] * rha	-.004128	.052017	17410.039	-.079	.937	-.106087	.097831
[real_fake=2.00] * rha	0[b]	0	.	.	.	.	.
speed * switch	-.001897	.001501	17410.152	-1.264	.206	-.004839	.001045
speed * rha	-.000683	.000741	17410.178	-.922	.356	-.002135	.000769
switch * rha	-.170454	.063511	17415.009	-2.684	.007	-.294942	-.045967
[real_fake=1.00] * speed * switch	.003036	.002079	17410.546	1.460	.144	-.001039	.007110
[real_fake=2.00] * speed * switch	0[b]	0	.	.	.	.	.
[real_fake=1.00] * speed * rha	.000502	.001022	17410.000	.491	.623	-.001501	.002504
[real_fake=2.00] * speed * rha	0[b]	0	.	.	.	.	.
[real_fake=1.00] * switch * rha	.218316	.090464	17421.185	2.413	.016	.040997	.395635
[real_fake=2.00] * switch * rha	0[b]	0	.	.	.	.	.
speed * switch * rha	.003270	.001252	17414.873	2.611	.009	.000816	.005724
[real_fake=1.00] * speed * switch * rha	-.003681	.001778	17420.682	-2.070	.038	-.007166	-.000195
[real_fake=2.00] * speed * switch * rha	0[b]	0	.	.	.	.	.
word_length	-.155344	.036335	17413.913	-4.275	.000	-.226565	-.084124
letter_freq	.140493	.013241	17410.093	10.611	.000	.114539	.166446

a. Dependent Variable: trans1.

b. This parameter is set to zero because it is redundant.

Covariance Parameters

Estimates of Covariance Parameters[a]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	3.664379	.039275
Intercept [subject = id]	Variance	.405819	.050918

a. Dependent Variable: trans1.

```
 SORT CASES  BY real_fake.
SPLIT FILE SEPARATE BY real_fake.
MIXED trans1 WITH speed switch rha word_length letter_freq
  /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSOL
  /FIXED=speed switch rha speed*switch speed*rha switch*rha speed*switch*rha word_length letter_freq | SSTYPE(3)
  /METHOD=ML
  /PRINT=SOLUTION
  /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
  /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

real_fake = 1.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	speed	**1**		**1**		
	switch	**1**		**1**		
	rha	**1**		**1**		
	speed * switch	**1**		**1**		
	speed * rha	**1**		**1**		
	switch * rha	**1**		**1**		
	speed * switch * rha	**1**		**1**		
	word_length	**1**		**1**		
	letter_freq	**1**		**1**		
Random Effects	**Intercept[c]**	**1**	Variance Components	**1**	**id**	
Repeated Effects	**orginalcode**	**119**	**Identity**	**1**	**id**	**147**
Total		**130**		**12**		

a. real_fake = 1.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

-2 Log Likelihood	**30828.849**
Akaike's Information Criterion (AIC)	**30852.849**
Hurvich and Tsai's Criterion (AICC)	**30852.885**
Bozdogan's Criterion (CAIC)	**30949.755**
Schwarz's Bayesian Criterion (BIC)	**30937.755**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 1.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	239.090	188.172	.000
speed	1	156.596	1.828	.178
switch	1	8591.158	3.403	.065
rha	1	8591.028	5.215	.022
speed * switch	1	8591.152	1.082	.298
speed * rha	1	8591.019	.158	.691
switch * rha	1	8593.315	.311	.577
speed * switch * rha	1	8593.251	.021	.885
word_length	1	8590.989	15.730	.000
letter_freq	1	8591.146	11.501	.001

a. real_fake = 1.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	5.131894	.374111	239.090	13.718	.000	4.394919	5.868868
speed	-.008980	.006643	156.596	-1.352	.178	-.022102	.004141
switch	-.096236	.052169	8591.158	-1.845	.065	-.198501	.006028
rha	.060039	.026290	8591.028	2.284	.022	.008503	.111575
speed * switch	.001070	.001029	8591.152	1.040	.298	-.000947	.003088
speed * rha	-.000200	.000503	8591.019	-.397	.691	-.001187	.000787
switch * rha	.025723	.046130	8593.315	.558	.577	-.064702	.116148
speed * switch * rha	-.000131	.000903	8593.251	-.145	.885	-.001901	.001639
word_length	-.151903	.038300	8590.989	-3.966	.000	-.226981	-.076825
letter_freq	.049176	.014500	8591.146	3.391	.001	.020752	.077601

a. real_fake = 1.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	1.876544	.028632
Intercept [subject = id]	Variance	1.142093	.136905

a. real_fake = 1.00

b. Dependent Variable: trans1.

real_fake = 2.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	Intercept	1		1		
	speed	1		1		
	switch	1		1		
	rha	1		1		
	speed * switch	1		1		
	speed * rha	1		1		
	switch * rha	1		1		
	speed * switch * rha	1		1		
	word_length	1		1		
	letter_freq	1		1		
Random Effects	Intercept[c]	1	Variance Components	1	id	
Repeated Effects	orginalcode	120	Identity	1	id	147
Total		131		12		

a. real_fake = 2.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

-2 Log Likelihood	**38733.956**
Akaike's Information Criterion (AIC)	**38757.956**
Hurvich and Tsai's Criterion (AICC)	**38757.991**
Bozdogan's Criterion (CAIC)	**38854.972**
Schwarz's Bayesian Criterion (BIC)	**38842.972**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 2.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	**1**	**863.940**	**178.611**	**.000**
speed	**1**	**194.059**	**.000**	**.995**
switch	**1**	**8672.338**	**10.179**	**.001**
rha	**1**	**8672.381**	**7.036**	**.008**
speed * switch	**1**	**8672.304**	**1.326**	**.250**
speed * rha	**1**	**8672.350**	**.676**	**.411**
switch * rha	**1**	**8680.893**	**6.354**	**.012**
speed * switch * rha	**1**	**8680.660**	**6.013**	**.014**
word_length	**1**	**8686.960**	**4.469**	**.035**
letter_freq	**1**	**8674.744**	**116.070**	**.000**

a. real_fake = 2.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	4.985710	.373055	863.940	13.365	.000	4.253509	5.717910
speed	-.000033	.005022	194.059	-.007	.995	-.009938	.009872
switch	.273363	.085681	8672.338	3.190	.001	.105408	.441317
rha	.112771	.042513	8672.381	2.653	.008	.029436	.196105
speed * switch	-.001930	.001676	8672.304	-1.151	.250	-.005216	.001356
speed * rha	-.000681	.000827	8672.350	-.822	.411	-.002303	.000941
switch * rha	-.178967	.070997	8680.893	-2.521	.012	-.318139	-.039796
speed * switch * rha	.003432	.001400	8680.660	2.452	.014	.000689	.006176
word_length	-.118022	.055829	8686.960	-2.114	.035	-.227461	-.008583
letter_freq	.212003	.019678	8674.744	10.774	.000	.173429	.250576

a. real_fake = 2.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	4.571114	.069419
Intercept [subject = id]	Variance	.526362	.070292

a. real_fake = 2.00

b. Dependent Variable: trans1.

```
MIXED trans1 WITH speed word_length letter_freq switch HIrha
 /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSOL
 /FIXED=speed word_length letter_freq switch HIrha speed*switch speed*HIrha switch*HIrha speed*switch*HIrha | SSTYPE(3)
 /METHOD=ML
 /PRINT=SOLUTION
 /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
 /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

real_fake = 2.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	speed	**1**		**1**		
	word_length	**1**		**1**		
	letter_freq	**1**		**1**		
	switch	**1**		**1**		
	Hlrha	**1**		**1**		
	speed * switch	**1**		**1**		
	speed * Hlrha	**1**		**1**		
	switch * Hlrha	**1**		**1**		
	speed * switch * Hlrha	**1**		**1**		
Random Effects	**Intercept[c]**	**1**	Variance Components	**1**	**id**	
Repeated Effects	**orginalcode**	**120**	**Identity**	**1**	**id**	**147**
Total		**131**		**12**		

a. real_fake = 2.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

-2 Log Likelihood	**38733.956**
Akaike's Information Criterion (AIC)	**38757.956**
Hurvich and Tsai's Criterion (AICC)	**38757.991**
Bozdogan's Criterion (CAIC)	**38854.972**
Schwarz's Bayesian Criterion (BIC)	**38842.972**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 2.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	912.667	191.085	.000
speed	1	253.124	.081	.777
word_length	1	8686.960	4.469	.035
letter_freq	1	8674.744	116.070	.000
switch	1	8677.534	.421	.517
HIrha	1	8672.381	7.036	.008
speed * switch	1	8677.101	2.406	.121
speed * HIrha	1	8672.350	.676	.411
switch * HIrha	1	8680.893	6.354	.012
speed * switch * HIrha	1	8680.660	6.013	.014

a. real_fake = 2.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	5.232677	.378539	912.667	13.823	.000	4.489770	5.975584
speed	-.001523	.005369	253.124	-.284	.777	-.012097	.009050
word_length	-.118022	.055829	8686.960	-2.114	.035	-.227461	-.008583
letter_freq	.212003	.019678	8674.744	10.774	.000	.173429	.250576
switch	-.118575	.182828	8677.534	-.649	.517	-.476962	.239812
HIrha	.112771	.042513	8672.381	2.653	.008	.029436	.196105
speed * switch	.005587	.003602	8677.101	1.551	.121	-.001474	.012648
speed * HIrha	-.000681	.000827	8672.350	-.822	.411	-.002303	.000941
switch * HIrha	-.178967	.070997	8680.893	-2.521	.012	-.318139	-.039796
speed * switch * HIrha	.003432	.001400	8680.660	2.452	.014	.000689	.006176

a. real_fake = 2.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	4.571114	.069419
Intercept [subject = id]	Variance	.526362	.070292

a. real_fake = 2.00

b. Dependent Variable: trans1.

```
MIXED trans1 WITH speed word_length letter_freq switch LOrha
 /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSOL
 /FIXED=speed word_length letter_freq switch speed*switch LOrha speed*LOrha switch*LOrha speed*switch*LOrha | SSTYPE(3)
 /METHOD=ML
 /PRINT=SOLUTION
 /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
 /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

real_fake = 2.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	speed	**1**		**1**		
	word_length	**1**		**1**		
	letter_freq	**1**		**1**		
	switch	**1**		**1**		
	speed * switch	**1**		**1**		
	LOrha	**1**		**1**		
	speed * LOrha	**1**		**1**		
	switch * LOrha	**1**		**1**		
	speed * switch * LOrha	**1**		**1**		
Random Effects	**Intercept[c]**	**1**	Variance Components	**1**	**id**	
Repeated Effects	**orginalcode**	**120**	**Identity**	**1**	**id**	**147**
Total		**131**		**12**		

a. real_fake = 2.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

-2 Log Likelihood	**38733.956**
Akaike's Information Criterion (AIC)	**38757.956**
Hurvich and Tsai's Criterion (AICC)	**38757.991**
Bozdogan's Criterion (CAIC)	**38854.972**
Schwarz's Bayesian Criterion (BIC)	**38842.972**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 2.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	1023.259	147.361	.000
speed	1	242.125	.075	.784
word_length	1	8686.960	4.469	.035
letter_freq	1	8674.744	116.070	.000
switch	1	8680.481	14.950	.000
speed * switch	1	8680.624	7.802	.005
LOrha	1	8672.381	7.036	.008
speed * LOrha	1	8672.350	.676	.411
switch * LOrha	1	8680.893	6.354	.012
speed * switch * LOrha	1	8680.660	6.013	.014

a. real_fake = 2.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	4.738742	.390365	1023.259	12.139	.000	3.972734	5.504750
speed	.001457	.005309	242.125	.275	.784	-.009001	.011916
word_length	-.118022	.055829	8686.960	-2.114	.035	-.227461	-.008583
letter_freq	.212003	.019678	8674.744	10.774	.000	.173429	.250576
switch	.665300	.172066	8680.481	3.867	.000	.328010	1.002591
speed * switch	-.009447	.003382	8680.624	-2.793	.005	-.016076	-.002817
LOrha	.112771	.042513	8672.381	2.653	.008	.029436	.196105
speed * LOrha	-.000681	.000827	8672.350	-.822	.411	-.002303	.000941
switch * LOrha	-.178967	.070997	8680.893	-2.521	.012	-.318139	-.039796
speed * switch * LOrha	.003432	.001400	8680.660	2.452	.014	.000689	.006176

a. real_fake = 2.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	4.571114	.069419
Intercept [subject = id]	Variance	.526362	.070292

a. real_fake = 2.00

b. Dependent Variable: trans1.

```
MIXED trans1 WITH word_length letter_freq LOrha switch hi_speed
 /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSOL
 /FIXED=word_length letter_freq LOrha switch hi_speed LOrha*switch LOrha*hi_speed switch*hi_speed LOrha*switch*hi_speed
 /METHOD=ML
 /PRINT=SOLUTION
 /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
 /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

real_fake = 2.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	word_length	**1**		**1**		
	letter_freq	**1**		**1**		
	LOrha	**1**		**1**		
	switch	**1**		**1**		
	hi_speed	**1**		**1**		
	LOrha * switch	**1**		**1**		
	LOrha * hi_speed	**1**		**1**		
	switch * hi_speed	**1**		**1**		
	LOrha * switch * hi_speed	**1**		**1**		
Random Effects	**Intercept[c]**	**1**	Variance Components	**1**	**id**	
Repeated Effects	**orginalcode**	**120**	**Identity**	**1**	**id**	**147**
Total		**131**		**12**		

a. real_fake = 2.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

-2 Log Likelihood	**38733.956**
Akaike's Information Criterion (AIC)	**38757.956**
Hurvich and Tsai's Criterion (AICC)	**38757.991**
Bozdogan's Criterion (CAIC)	**38854.972**
Schwarz's Bayesian Criterion (BIC)	**38842.972**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 2.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	1898.780	188.775	.000
word_length	1	8686.960	4.469	.035
letter_freq	1	8674.744	116.070	.000
LOrha	1	8672.417	10.442	.001
switch	1	8680.277	17.448	.000
hi_speed	1	242.125	.075	.784
LOrha * switch	1	8680.971	6.250	.012
LOrha * hi_speed	1	8672.350	.676	.411
switch * hi_speed	1	8680.624	7.802	.005
LOrha * switch * hi_speed	1	8680.660	6.013	.014

a. real_fake = 2.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	4.758578	.346341	1898.780	13.740	.000	4.079328	5.437828
word_length	-.118022	.055829	8686.960	-2.114	.035	-.227461	-.008583
letter_freq	.212003	.019678	8674.744	10.774	.000	.173429	.250576
LOrha	.103508	.032033	8672.417	3.231	.001	.040717	.166300
switch	.536730	.128494	8680.277	4.177	.000	.284851	.788610
hi_speed	.001457	.005309	242.125	.275	.784	-.009001	.011916
LOrha * switch	-.132253	.052903	8680.971	-2.500	.012	-.235956	-.028550
LOrha * hi_speed	-.000681	.000827	8672.350	-.822	.411	-.002303	.000941
switch * hi_speed	-.009447	.003382	8680.624	-2.793	.005	-.016076	-.002817
LOrha * switch * hi_speed	.003432	.001400	8680.660	2.452	.014	.000689	.006176

a. real_fake = 2.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	4.571114	.069419
Intercept [subject = id]	Variance	.526362	.070292

a. real_fake = 2.00

b. Dependent Variable: trans1.

```
MIXED trans1 WITH word_length letter_freq LOrha switch lo_speed
 /CRITERIA=CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0, ABSOLUTE) LCONVERGE(0, ABSOL
 /FIXED=word_length letter_freq LOrha switch LOrha*switch lo_speed LOrha*lo_speed switch*lo_speed LOrha*switch*lo_speed
 /METHOD=ML
 /PRINT=SOLUTION
 /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC)
 /REPEATED=orginalcode | SUBJECT(id) COVTYPE(ID).
```

Mixed Model Analysis

[DataSet1] /Users/Erin/Dropbox/E_K projects/D QWERTY/revised_paper/analysis v 1_2/mmrm_analysis.sav

real_fake = 2.00

Model Dimension[a,b]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables	Number of Subjects
Fixed Effects	**Intercept**	**1**		**1**		
	word_length	**1**		**1**		
	letter_freq	**1**		**1**		
	LOrha	**1**		**1**		
	switch	**1**		**1**		
	LOrha * switch	**1**		**1**		
	lo_speed	**1**		**1**		
	LOrha * lo_speed	**1**		**1**		
	switch * lo_speed	**1**		**1**		
	LOrha * switch * lo_speed	**1**		**1**		
Random Effects	**Intercept[c]**	**1**	Variance Components	**1**	**id**	
Repeated Effects	**orginalcode**	**120**	**Identity**	**1**	**id**	**147**
Total		**131**		**12**		

a. real_fake = 2.00

b. Dependent Variable: trans1.

c. As of version 11.5, the syntax rules for the RANDOM subcommand have changed. Your command syntax may yield results that differ from those produced by prior versions. If you are using version 11 syntax, please consult the current syntax reference guide for more information.

Information Criteria[a,b]

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Bozdogan's Criterion (CAIC)	**38854.972**
Schwarz's Bayesian Criterion (BIC)	**38842.972**

The information criteria are displayed in smaller-is-better forms.

a. real_fake = 2.00

b. Dependent Variable: trans1.

Fixed Effects

Type III Tests of Fixed Effects[a,b]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	682.158	114.043	.000
word_length	1	8686.960	4.469	.035
letter_freq	1	8674.744	116.070	.000
LOrha	1	8672.365	5.240	.022
switch	1	8680.565	13.426	.000
LOrha * switch	1	8680.844	6.360	.012
lo_speed	1	242.125	.075	.784
LOrha * lo_speed	1	8672.350	.676	.411
switch * lo_speed	1	8680.624	7.802	.005
LOrha * switch * lo_speed	1	8680.660	6.013	.014

a. real_fake = 2.00

b. Dependent Variable: trans1.

Estimates of Fixed Effects[a,b]

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	4.718906	.441883	682.158	10.679	.000	3.851292	5.586521
word_length	-.118022	.055829	8686.960	-2.114	.035	-.227461	-.008583
letter_freq	.212003	.019678	8674.744	10.774	.000	.173429	.250576
LOrha	.122033	.053312	8672.365	2.289	.022	.017528	.226538
switch	.793871	.216656	8680.565	3.664	.000	.369173	1.218568
LOrha * switch	-.225681	.089489	8680.844	-2.522	.012	-.401100	-.050262
lo_speed	.001457	.005309	242.125	.275	.784	-.009001	.011916
LOrha * lo_speed	-.000681	.000827	8672.350	-.822	.411	-.002303	.000941
switch * lo_speed	-.009447	.003382	8680.624	-2.793	.005	-.016076	-.002817
LOrha * switch * lo_speed	.003432	.001400	8680.660	2.452	.014	.000689	.006176

a. real_fake = 2.00

b. Dependent Variable: trans1.

Covariance Parameters

Estimates of Covariance Parameters[a,b]

Parameter		Estimate	Std. Error
Repeated Measures	Variance	4.571114	.069419
Intercept [subject = id]	Variance	.526362	.070292

a. real_fake = 2.00

b. Dependent Variable: trans1.