LAB_09-Part I Example:
Entering/Analyzing Your Data and Interpreting Your Results

1 IV, 2-Levels, BETWEEN

participant ID	condition 1 = social isolation 2 = not socially isolated	DV#1: Self-Esteem	DV#2: Life Satisfaction
101	1	4	3
102	1	5	4
103	1	4	3
104	1	4	3
105	1	5	4
...			
126	2	7	4
127	2	9	3
128	2	6	5
129	2	7	4
130	2	9	3

Mean DV#1 – Condition 1	4.32	SD DV#1 – Condition 1	0.476095229
Mean DV#1 – Condition 2	7.28	SD DV#1 – Condition 2	1.275408431
Mean DV#2 – Condition 1	3.32	SD DV#2 – Condition 1	0.476095229
Mean DV#2 – Condition 2	4.04	SD DV#2 – Condition 2	0.840634681

...DV#1

Independent Samples							
Mean group 1	4.32	Mean group 2	7.28	M_{diff}[Low; High]	-3.507444315	Cohen's d_s	3.074892523
SD group 1	0.476095228569523	SD group 2	1.275408431		-2.412555685	Cohen's d	3.13829904
n group 1	25	n group 2	25	*t*	-10.87138677	Hedges's g_s	3.026595782
				df	48	CL effect size	0.985157844
				p	0.0000		

DV#2

Independent Samples							
Mean group 1	3.32	Mean group 2	4.04	95% CI M_{diff}[Low; High]	-1.110666909	Cohen's d_s	1.048252562
SD group 1	0.476095228569523	SD group 2	0.840634681		-0.329333091	Cohen's d	1.070323457
n group 1	24	n group 2	25	*t*	-3.668119855	Hedges's g_s	1.031435676
				df	47	CL effect size	0.771945986
				p	0.0006		

LAB_09-Part I Example continued

1 IV, 2-Levels, WITHIN

participant ID	DV#1-Condition#1: acceptable – funeral	DV#1-Condition#2: acceptable – birthday	DV#2-Condition#1: introverted – funeral	DV#2-Condition#2: introverted – birthday
101	4	6	5	7
102	9	2	7	1
103	7	3	6	5
104	8	1	3	1
105	5	5	8	2
106	4	8	4	9

Mean DV#1 – Condition 1	6.1	SD DV#1 – Condition 1	1.96136146
Mean DV#1 – Condition 2	4.26	SD DV#1 – Condition 2	2.447906227
Mean DV#2 – Condition 1	5.52	SD DV#2 – Condition 1	1.740748138
Mean DV#2 – Condition 2	4.22	SD DV#2 – Condition 2	3.138243367

DV#1

Correlated (or Dependent) Samples							
Mean 1	4.26	Mean 2	0	M_{diff}	4.26	Cohen's d_z	1.74026274061579
SD 1	2.447906227	SD 2	0	S_{diff}	2.44790622736231	Cohen's d_{rm}	2.84142018832177
n pairs	50	*r*	-0.332942097	SE_{diff}	0.346186218615334	Hedges g_{rm}	2.79770603157835
				M_{diff}[Low;	3.5643	Cohen's d_{av}	2.46110316987142
				High]	4.9557	Hedges g_{av}	2.4232400441811
t	12.30551585	*df*	49	*p*	0.00	commended:	Gav
						CL effect size	0.959093553342497

DV#2

Correlated (or Dependent) Samples							
Mean 1	4.22	Mean 2	0	M_{diff}	4.22	Cohen's d_z	1.34470132074284
SD 1	3.138243367	SD 2	0	S_{diff}	3.13824336668963	Cohen's d_{rm}	1.90169484513554
n pairs	50	*r*	0	SE_{diff}	0.443814633119987	Hedges g_{rm}	1.87243800136422
				M_{diff}[Low;	3.3281	Cohen's d_{av}	1.90169484513554
				High]	5.1119	Hedges g_{av}	1.87243800136422
t	9.508474226	*df*	49	*p*	0.00	commended:	Gav
						CL effect size	0.910639146017717

LAB_09-Part I Example continued

1-IV, 2-Levels, BETWEEN-WITHIN (Pre-Post)

participant ID	condition: 1 = mindfulness 2 = control	DV#1-Pre: Stress-Pre	DV#1-Post: Stress-Post	DV#2-Pre: Happiness-Pre	DV#2-Post: Happiness-Post	Diff DV#1: Diff Stress	Diff DV#2: Diff Happiness
101	1	2	3	3	4	1	1
102	1	5	7	6	8	2	2
103	1	4	5	5	6	1	1
104	1	2	3	3	4	1	1
				...			
126	2	2	8	3	7	6	4
127	2	3	9	6	9	6	3
128	2	1	8	4	9	7	5
129	2	2	8	3	7	6	4
130	2	3	9	6	9	6	3

Mean Diff DV#1 – Condition 1	1.36	SD Diff DV#1 – Condition 1	0.489897949
Mean Diff DV#1 – Condition 2	6.32	SD Diff DV#1 – Condition 2	0.476095229

Mean Diff DV#2 – Condition 1	1.36	SD Diff DV#2 – Condition 1	0.489897949
Mean Diff DV#2 – Condition 2	4	SD Diff DV#2 – Condition 2	1.490651138

...DV#1

Independent Samples							
Mean group 1	1.36	Mean group 2	6.32	95% CI M_{diff}[Low; High]	-5.234705005	Cohen's d_s	10.26817552
SD group 1	0.489897949	SD group 2	0.476095229		-4.685294995	Cohen's d	10.47991276
n group 1	25	n group 2	25	*t*	-36.30348271	Hedges's g_s	10.10689528
				df	48	CL effect size	1
				p	0.0000		

DV#2

Independent Samples							
Mean group 1	1.36	Mean group 2	4	95% CI M_{diff}[Low; High]	-3.270973044	Cohen's d_s	2.379421056
SD group 1	0.489897949	SD group 2	1.490651138		-2.009026956	Cohen's d	2.428486446
n group 1	25	n group 2	25	*t*	-8.41252382	Hedges's g_s	2.342047951
				df	48	CL effect size	0.953764499
				p	0.0000		

LAB_09-Part I Example continued

2x2 (2 IVs, each with 2 Levels) – DV#1

participant ID	Condition (IV#1 or IV#2): Personality: 1 = highstrung Personality: 2 = LaidBack	DV#1 – Level 1: Coping: Drunk	DV#1 – Level 2: Coping: Sober	L1sq	L2sq	L1*L2	grand mean		
101	1	2	2	4	4	4		4.2	
102	1	4	3	16	9	12			
103	1	7	5	49	25	35	mean C1 L1		4.36
104	1	4	1	16	1	4	mean C1 L2		2.68
105	1	2	2	4	4	4	mean C2 L1		7.28
106	1	4	3	16	9	12	mean C2 L2		2.48
107	1	7	5	49	25	35			
108	1	4	1	16	1	4	between		369.52
			...						
154	2	8	2	64	4	16			
155	2	9	1	81	1	9			
156	2	5	3	25	9	15			
157	2	7	4	49	16	28			
158	2	8	2	64	4	16			

C1	50	176	**3.52**	3.560816327	-1.36
C2	50	244	**4.88**	7.577142857	
L1	50	291	**5.82**	4.966938776	3.24
L2	50	129	**2.58**	1.75877551	

	SS	df	MS	F	p	eta-sq
rows (conditions)	46.24	**1**	46.24	**19.95253506**	**0.000021685**	**0.172075022**
columns (levels)	262.44	1	262.44	**113.2427184**	**0.000000000**	**0.541202673**
r x c (condition x level)	60.84	1	60.84	**26.25242718**	**0.000001547**	**0.214739517**
error (SS within)	222.48	**96**	2.3175			
total	592	99				

LAB_09-Part I Example continued

2x2 (2 IVs, each with 2 Levels) - DV#2

participant ID	Condition (IV#1 or IV#2): Personality: 1 = highstrung Personality: 2 = LaidBack	DV#1 – Level 1: Music: Rock	DV#1 – Level 2: Music: Classical	L1sq	L2sq	L1*L2	grand mean		
101	1	2	2	4	4	4		4.2	
102	1	4	3	16	9	12			
103	1	7	5	49	25	35	mean C1 L1		4.36
104	1	4	1	16	1	4	mean C1 L2		2.68
105	1	2	2	4	4	4	mean C2 L1		7.28
106	1	4	3	16	9	12	mean C2 L2		2.48
107	1	7	5	49	25	35			
108	1	4	1	16	1	4	between		369.52
			...						
153	2	7	4	49	16	28			
154	2	8	2	64	4	16			
155	2	9	1	81	1	9			
156	2	5	3	25	9	15			
157	2	7	4	49	16	28			

	count	sum	average	variance	
C1	50	176	**3.52**	3.560816327	-1.36
C2	50	244	**4.88**	7.577142857	
L1	50	291	**5.82**	4.966938776	3.24
L2	50	129	**2.58**	1.75877551	

	SS	df	MS	F	p	eta-sq
rows (conditions)	46.24	**1**	46.24	**19.95253506**	**0.000021685**	**0.172075022**
columns (levels)	262.44	1	262.44	**113.2427184**	**0.000000000**	**0.541202673**
r x c (condition x level)	60.84	1	60.84	**26.25242718**	**0.000001547**	**0.214739517**
error (SS within)	222.48	**96**	2.3175			
total	592	99				

LAB_09-Part II Example:
Entering/Analyzing Your Data and Interpreting Your Results

Provide a written description in APA style of your results below:

t-test:

To evaluate if reading a high- vs low-stress scenario would impact the likelihood that participants would choose a negative coping mechanism, means and standard deviations were calculated. Consistent with the hypothesis, after participants read a high-stress scenario, they rated themselves are more likely to choose to negative coping mechanism ($M = 7.25$, $SD = 1.21$) than after reading a low-stress scenario ($M = 3.80$, $SD = 1.32$). To determine the probability that this difference in means would occur if the null hypothesis is true (that is, if this difference was statistically significant), a *t*- test was conducted. The difference in means is significantly significant; the *t*-test showed that there is a less than a 1% chance that these results are due to sampling error, $t(19) = 9.07$, $p = < .001$. Therefore, it appears that participants' are more likely to choose a negative coping mechanism in response to high-stress than in response to low-stress.

F-test (2x2):

To evaluate if personality and grades achieved impact participants' level of anxiety, means marginal means, and standard deviations were calculated. Consistent with the hypothesis, participants perceived a person who was high-strung as having higher levels of anxiety ($M = 4.20$, $SD = 1.87$) compared to a person who was easygoing ($M = 1.80$, $SD = 1.45$). Additionally, participants perceived a person who had achieved a grade of 60% as having higher levels of anxiety ($M = 5.70$, $SD = 0.87$) compared to a person who has achieved a grade of 75% ($M = 2.70$, $SD = 1.66$).

To determine the probability that this difference in means would occur if the null hypothesis is true, an ANOVA was conducted. Results revealed that there was not a statistically significant main effect of personality $F(1, 18) = 3.79$, $p = .070$; that is, there is a greater than 5% chance that these results are due to sampling error. There was a statistically significant main effect of grades $F(1, 28.8) = 60.63$, $p < .001$; that is there is a less than 1% chance that these results are due to sampling error. There was not a statistically significant interaction between personality and grades $F(1, 18) = 3.79$, $p = .070$; that is, there is a greater than 5% chance that these results are due to sampling error.