

Statistical Analysis in the pilot study for signed up students

September 30, 2018

Table 1: Two-way ANOVA and Scheirer-Ray-Hare in the pilot study for signed up students

	Sum Sq	Df	F value	Pr(>F)	Sig	Df	Sum Sq	H	p.value	Sig
Interest/Enjoyment.(Intercept)	0.483	1	0.208	0.652						
Interest/Enjoyment.Type	8.107	1	3.495	0.073		1	277.266	3.590	0.058	
Interest/Enjoyment.CLRole	1.879	1	0.810	0.376		1	42.321	0.548	0.459	
Interest/Enjoyment.Type:CLRole	0.599	1	0.258	0.616		1	29.121	0.377	0.539	
Interest/Enjoyment.Residuals	60.314	26				26	1890.792			
Perceived Choice.(Intercept)	0.103	1	0.195	0.663						
Perceived Choice.Type	3.675	1	6.980	0.014	*	1	308.571	3.998	0.046	*
Perceived Choice.CLRole	0.066	1	0.126	0.725		1	0.027	0.000	0.985	
Perceived Choice.Type:CLRole	1.050	1	1.994	0.170		1	161.485	2.093	0.148	
Perceived Choice.Residuals	13.689	26				26	1767.917			
Pressure/Tension.(Intercept)	0.017	1	0.036	0.850						
Pressure/Tension.Type	1.125	1	2.472	0.128		1	259.286	3.367	0.067	
Pressure/Tension.CLRole	0.027	1	0.060	0.809		1	12.623	0.164	0.686	
Pressure/Tension.Type:CLRole	0.012	1	0.026	0.874		1	7.758	0.101	0.751	
Pressure/Tension.Residuals	11.838	26				26	1953.333			
Effort/Importance.(Intercept)	0.010	1	0.019	0.892						
Effort/Importance.Type	0.335	1	0.645	0.429		1	13.393	0.175	0.676	
Effort/Importance.CLRole	0.068	1	0.130	0.721		1	0.069	0.001	0.976	
Effort/Importance.Type:CLRole	0.273	1	0.525	0.475		1	7.517	0.098	0.754	
Effort/Importance.Residuals	13.516	26				26	2201.021			
Intrinsic Motivation.(Intercept)	0.042	1	0.082	0.777						
Intrinsic Motivation.Type	2.397	1	4.702	0.039	*	1	420.000	5.419	0.020	*
Intrinsic Motivation.CLRole	0.456	1	0.894	0.353		1	17.182	0.222	0.638	
Intrinsic Motivation.Type:CLRole	0.080	1	0.156	0.696		1	4.735	0.061	0.805	
Intrinsic Motivation.Residuals	13.254	26				26	1805.583			

Signif. codes: 0 “***” 0.01 “**” 0.05

Table 2: Summary of Tukey post-hoc in the pilot study for signed up students

	N	mean	lsmean	SE	df	lwr.CI	upr.CI	t.ratio	p.value	p.adj	g	sig	mag
Interest/Enjoyment:non-gamified - ont-gamified	30	-1.208	-1.363	0.729		-2.354	-0.063	-1.869	0.073	0.039	-0.780	*	medium
Perceived Choice:non-gamified - ont-gamified	30	-0.607	-0.918	0.347		-1.152	-0.061	-2.642	0.014	0.031	-0.814	*	large
Intrinsic Motivation:non-gamified - ont-gamified	30	-0.694	-0.741	0.342		-1.231	-0.157	-2.168	0.039	0.013	-0.956	*	large

Table 3: Summary of Pair wilcoxon in the pilot study for signed up students

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Interest/Enjoyment.Type.less.1	non-gamified	14	-0.78	12.25	171.5	66.5	-1.89	0.029	0.346	medium
Interest/Enjoyment.Type.less.2	ont-gamified	16	0.48	18.34	293.5	66.5	-1.89	0.029	0.346	medium
Perceived Choice.Type.less.1	non-gamified	14	-0.25	12.07	169.0	64.0	-2.00	0.023	0.365	medium
Perceived Choice.Type.less.2	ont-gamified	16	0.29	18.50	296.0	64.0	-2.00	0.023	0.365	medium
Perceived Choice.Type.two.sided.1	non-gamified	14	-0.25	12.07	169.0	64.0	-2.00	0.046	0.365	medium
Perceived Choice.Type.two.sided.2	ont-gamified	16	0.29	18.50	296.0	64.0	-2.00	0.046	0.365	medium
Perceived Choice.Type:CLRole.less.1	non-gamified.Master	2	-0.84	2.50	5.0	2.0	-1.83	0.044	0.489	medium
Perceived Choice.Type:CLRole.less.2	ont-gamified.Apprentice	12	0.24	8.33	100.0	2.0	-1.83	0.044	0.489	medium
Pressure/Tension.Type.greater.1	non-gamified	14	0.28	18.64	261.0	156.0	1.84	0.034	0.335	medium
Pressure/Tension.Type.greater.2	ont-gamified	16	-0.20	12.75	204.0	156.0	1.84	0.034	0.335	medium
Intrinsic Motivation.Type.less.1	non-gamified	14	-0.28	11.50	161.0	56.0	-2.33	0.010	0.425	medium
Intrinsic Motivation.Type.less.2	ont-gamified	16	0.24	19.00	304.0	56.0	-2.33	0.010	0.425	medium
Intrinsic Motivation.Type.two.sided.1	non-gamified	14	-0.28	11.50	161.0	56.0	-2.33	0.019	0.425	medium
Intrinsic Motivation.Type.two.sided.2	ont-gamified	16	0.24	19.00	304.0	56.0	-2.33	0.019	0.425	medium
Intrinsic Motivation.Type:CLRole.less.1	non-gamified.Apprentice	12	-0.45	9.75	117.0	39.0	-1.91	0.030	0.389	medium
Intrinsic Motivation.Type:CLRole.less.2	ont-gamified.Apprentice	12	0.24	15.25	183.0	39.0	-1.91	0.030	0.389	medium