

# Summary of nonparametric statistics analysis for the latent trait estimates of Interest/Enjoyment in the first study for signed up students

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Table 1: Summary of Scheirer-Ray-Hare results for the latent trait estimates of Interest/Enjoyment in the first study for signed up students

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	1135.350	3.741	0.053	
Type:CLRole	1	32.781	0.108	0.742	
Type:Type:CLRole	1	456.963	1.506	0.220	
Type:Residuals	56	16281.406			

Signif. codes: 0 “\*\*\*” 0.01 “\*\*” 0.05

Table 2: Descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Interest/Enjoyment in the first study for signed up students

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	non-gamified	30	-0.79	26.15	784.5	319.5	-1.93	0.027	0.250	small
Type.less.2	ont-gamified	30	0.05	34.85	1045.5	319.5	-1.93	0.027	0.250	small
Type:CLRole.less.1	non-gamified.Master	16	-0.94	12.53	200.5	64.5	-2.20	0.013	0.395	medium
Type:CLRole.less.2	ont-gamified.Master	15	0.19	19.70	295.5	64.5	-2.20	0.013	0.395	medium
Type:CLRole.two.sided.1	non-gamified.Master	16	-0.94	12.53	200.5	64.5	-2.20	0.027	0.395	medium
Type:CLRole.two.sided.2	ont-gamified.Master	15	0.19	19.70	295.5	64.5	-2.20	0.027	0.395	medium

Table 3: Full descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Interest/Enjoyment in the first study for signed up students

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	non-gamified	30	-0.79	26.15	784.5	319.5	-1.93	0.027	0.250	small
Type.less.2	ont-gamified	30	0.05	34.85	1045.5	319.5	-1.93	0.027	0.250	small
Type.greater.1	non-gamified	30	-0.79	26.15	784.5	319.5	-1.93	0.974	0.250	small
Type.greater.2	ont-gamified	30	0.05	34.85	1045.5	319.5	-1.93	0.974	0.250	small
Type.two.sided.1	non-gamified	30	-0.79	26.15	784.5	319.5	-1.93	0.053	0.250	small
Type.two.sided.2	ont-gamified	30	0.05	34.85	1045.5	319.5	-1.93	0.053	0.250	small
Type:CLRole.less.1	non-gamified.Apprentice	14	-0.79	17.39	243.5	138.5	1.11	0.866	0.202	small
Type:CLRole.less.2	non-gamified.Master	16	-0.94	13.84	221.5	138.5	1.11	0.866	0.202	small
Type:CLRole.greater.1	non-gamified.Apprentice	14	-0.79	17.39	243.5	138.5	1.11	0.139	0.202	small
Type:CLRole.greater.2	non-gamified.Master	16	-0.94	13.84	221.5	138.5	1.11	0.139	0.202	small
Type:CLRole.two.sided.1	non-gamified.Apprentice	14	-0.79	17.39	243.5	138.5	1.11	0.278	0.202	small
Type:CLRole.two.sided.2	non-gamified.Master	16	-0.94	13.84	221.5	138.5	1.11	0.278	0.202	small
Type:CLRole.less.11	non-gamified.Apprentice	14	-0.79	14.00	196.0	91.0	-0.61	0.276	0.114	small
Type:CLRole.less.21	ont-gamified.Apprentice	15	-0.11	15.93	239.0	91.0	-0.61	0.276	0.114	small
Type:CLRole.greater.11	non-gamified.Apprentice	14	-0.79	14.00	196.0	91.0	-0.61	0.731	0.114	small
Type:CLRole.greater.21	ont-gamified.Apprentice	15	-0.11	15.93	239.0	91.0	-0.61	0.731	0.114	small
Type:CLRole.two.sided.11	non-gamified.Apprentice	14	-0.79	14.00	196.0	91.0	-0.61	0.552	0.114	small
Type:CLRole.two.sided.21	ont-gamified.Apprentice	15	-0.11	15.93	239.0	91.0	-0.61	0.552	0.114	small
Type:CLRole.less.12	non-gamified.Apprentice	14	-0.79	13.50	189.0	84.0	-0.92	0.184	0.171	small
Type:CLRole.less.22	ont-gamified.Master	15	0.19	16.40	246.0	84.0	-0.92	0.184	0.171	small
Type:CLRole.greater.12	non-gamified.Apprentice	14	-0.79	13.50	189.0	84.0	-0.92	0.822	0.171	small
Type:CLRole.greater.22	ont-gamified.Master	15	0.19	16.40	246.0	84.0	-0.92	0.822	0.171	small
Type:CLRole.two.sided.12	non-gamified.Apprentice	14	-0.79	13.50	189.0	84.0	-0.92	0.368	0.171	small
Type:CLRole.two.sided.22	ont-gamified.Master	15	0.19	16.40	246.0	84.0	-0.92	0.368	0.171	small
Type:CLRole.less.13	non-gamified.Apprentice	16	-0.94	13.50	216.0	80.0	-1.58	0.058	0.285	small
Type:CLRole.less.23	ont-gamified.Apprentice	15	-0.11	18.67	280.0	80.0	-1.58	0.058	0.285	small
Type:CLRole.greater.13	non-gamified.Master	16	-0.94	13.50	216.0	80.0	-1.58	0.944	0.285	small
Type:CLRole.greater.23	ont-gamified.Apprentice	15	-0.11	18.67	280.0	80.0	-1.58	0.944	0.285	small
Type:CLRole.two.sided.13	non-gamified.Master	16	-0.94	13.50	216.0	80.0	-1.58	0.116	0.285	small
Type:CLRole.two.sided.23	ont-gamified.Apprentice	15	-0.11	18.67	280.0	80.0	-1.58	0.116	0.285	small
Type:CLRole.less.14	non-gamified.Master	16	-0.94	12.53	200.5	64.5	-2.20	0.013	0.395	medium
Type:CLRole.less.24	ont-gamified.Master	15	0.19	19.70	295.5	64.5	-2.20	0.013	0.395	medium
Type:CLRole.greater.14	non-gamified.Master	16	-0.94	12.53	200.5	64.5	-2.20	0.987	0.395	medium
Type:CLRole.greater.24	ont-gamified.Master	15	0.19	19.70	295.5	64.5	-2.20	0.987	0.395	medium
Type:CLRole.two.sided.14	non-gamified.Master	16	-0.94	12.53	200.5	64.5	-2.20	0.027	0.395	medium
Type:CLRole.two.sided.24	ont-gamified.Master	15	0.19	19.70	295.5	64.5	-2.20	0.027	0.395	medium
Type:CLRole.less.15	ont-gamified.Apprentice	15	-0.11	14.23	213.5	93.5	-0.79	0.221	0.144	small
Type:CLRole.less.25	ont-gamified.Master	15	0.19	16.77	251.5	93.5	-0.79	0.221	0.144	small
Type:CLRole.greater.15	ont-gamified.Apprentice	15	-0.11	14.23	213.5	93.5	-0.79	0.786	0.144	small
Type:CLRole.greater.25	ont-gamified.Master	15	0.19	16.77	251.5	93.5	-0.79	0.786	0.144	small

Table 3: *(continued)*

Group		N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	ont-gamified.Apprentice	15	-0.11	14.23	213.5	93.5	-0.79	0.441	0.144	small
Type:CLRole.two.sided.25	ont-gamified.Master	15	0.19	16.77	251.5	93.5	-0.79	0.441	0.144	small